

# MZ-E25

## SERVICE MANUAL

US Model  
Canadian Model  
AEP Model  
UK Model  
E Model  
Australian Model



US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	NEW
Mechanism Type	MT-MZE35-140
Optical Pick-up Name	ODX-1B

### SPECIFICATIONS

#### System

##### Audio playing system

MiniDisc digital audio system

##### Laser diode properties

Material: GaAlAs

Wavelength:  $\lambda = 790 \text{ nm}$

Emission duration: continuous

Laser output: less than  $44.6 \mu\text{W}^*$

\* This output is the value measured at a distance of 200 mm from the objective lens surface on the optical pick-up block with 7mm aperture.

##### Revolutions

400 rpm to 900 rpm (CLV)

##### Error correction

Advanced Cross Interleave Reed Solomon Code (ACIRC)

##### Sampling frequency

44.1 kHz

##### Coding

Adaptive TRAnsform Acoustic Coding (ATRAC)

##### Modulation system

EFM (Eight to Fourteen Modulation)

##### Number of channels

2 stereo channels

1 monaural channel

##### Frequency response

20 to 20,000 Hz  $\pm 3 \text{ dB}$

##### Wow and Flutter

Below measurable limit

##### Outputs

Headphones: stereo mini-jack, maximum output level 5 mW + 5 mW, load impedance 16 ohm

#### General

##### Power requirements

One LR6 (size AA) battery (not supplied)

Ni-Cd rechargeable battery NC-6WM (not supplied)

Sony AC Power Adaptor AC-E15L <sup>1)</sup> (not supplied) connected at the DC IN 1.5 V jack

##### Battery operation time

See "When to replace or charge the batteries"

##### Dimensions

Approx. 102 × 17.2 × 75 mm (w/h/d) (4 <sup>1</sup>/<sub>8</sub> × <sup>11</sup>/<sub>16</sub> × 3 in.) not including projecting parts and controls

##### Mass

Approx. 130 g (4.6 oz.) the player only

Approx. 170 g (6.0 oz.) incl. a premastered MD and a Sony alkaline LR6 (SG) battery

##### Supplied accessories

Headphones with a remote control (1)

Carrying pouch (1)

Ear pad (2)

Design and specifications are subject to change without notice.



## PORTABLE MINIDISC PLAYER

# SONY®

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### Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

### Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

#### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CLASS 1 LASER PRODUCT  
LUOKAN 1 LASERLAITE  
KLASS 1 LASERAPPARAT

This MiniDisc player is classified as a CLASS 1 LASER product.

The CLASS 1 LASER PRODUCT label is located on the rear exterior.

### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\triangle$  OR DOTTED LINE WITH MARK  $\triangle$  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  $\triangle$  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

## SECTION 1 GENERAL

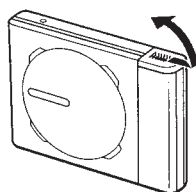
This section is extracted from instruction manual.

# Playing an MD right away! **A**

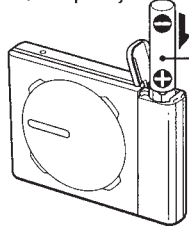
Prepare one LR6 (size AA) alkaline battery. You can also use this player on a rechargeable battery and house current (see "Power sources"). The player automatically switches to play the stereo or monaural sound according to the recorded sound.

## 1 Insert the battery.

① Slide open the battery compartment lid like the arrow in the illustration.

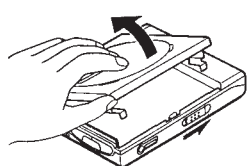


② Insert the battery with correct polarity.

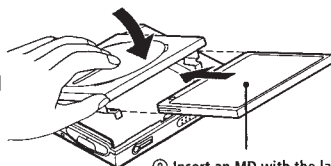


LR6 (size AA)  
alkaline  
battery (not  
supplied)

## 2 Insert an MD.



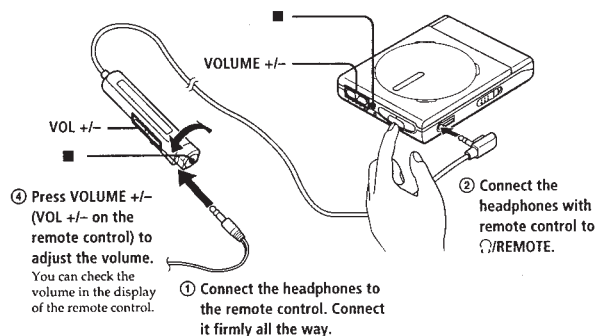
① Slide OPEN and open the lid.



② Insert an MD with the label facing up and press the lid down to close.

## 3 Play an MD.

③ Press **▶** (turn the control to **▶▶▶▶** on the remote control). The player starts to play the first track. If you use the remote control, a short beep sounds in the headphones.



④ Press VOLUME +/- (VOL +/- on the remote control) to adjust the volume. You can check the volume in the display of the remote control.

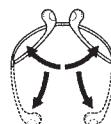
① Connect the headphones to the remote control. Connect it firmly all the way.

To stop play, press **■**. If you use the remote control, a short beep sounds in the headphones.

To	Press (Beeps in the headphones)
Pause	<b>  </b> on the remote control (Continuous short beeps)  Press <b>  </b> again to resume play.
Find the beginning of the current track	<b>◀◀</b> or turn the control to <b>◀◀</b> on the remote control once (Three short beeps)
Find the beginning of the next track	<b>▶▶</b> or turn the control to <b>▶▶</b> on the remote control once (Two short beeps)
Go backwards while playing <sup>1)</sup>	keep pressing <b>◀◀</b> or keep the control turned to <b>◀◀</b> on the remote control
Go forward while playing <sup>1)</sup>	keep pressing <b>▶▶</b> or keep the control turned to <b>▶▶</b> on the remote control
Remove the MD	<b>■</b> and slide OPEN and open the lid. <sup>2)</sup>

**When Using the headphones**  
Wear the "L" marked side to the left ear and the "R" marked side to the right ear.

**For customers in the United States**  
Unfold the supplied headphones as shown in the illustration below.



**If the play does not start**  
Make sure the player is not locked. See "To lock the controls."

**Display window while playing back**

• Display window on the remote control  
Track name<sup>3)</sup> or elapsed time of the track being played



Track number

- 1) To go backwards or forward quickly without listening, press **||** and keep pressing **◀◀** or **▶▶** (on the remote control, keep the control turned).
- 2) Once you open the lid, the point to start play will change to the beginning of the first track.
- 3) Appears only with MDs that have been electronically labeled.

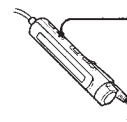
**Note**  
Do not slide OPEN during playback. If you do, the lid opens and playback will stop.

**When using optional headphones**  
Use the headphones that have stereo-miniplug. You cannot use other types of headphones (microplug).

## ► Various ways of playback

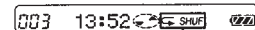
### Playing tracks repeatedly **B**

You can play tracks repeatedly in three ways—all repeat, single repeat, and shuffle repeat.



PLAY MODE

Press PLAY MODE while the player is playing an MD. Each time you press PLAY MODE, the play mode indication changes as follows.



Play mode indication

(none) (normal play)

All the tracks are played once.

↓

◀◀ (all repeat)  
All the tracks are played repeatedly.

↓

◀◀ 1 (single repeat)  
A single track is played repeatedly.

↓

◀◀ SHUF (shuffle repeat)  
All the tracks are played repeatedly in random order.

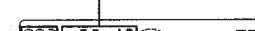
## Tips on playback

### To know the track name and time **C**

Press DISPLAY on the remote control while the player is playing an MD. Each time you press DISPLAY, the display changes as follows.



Elapsed time



Track number

↓

Track name



Track number

↓

Disc name

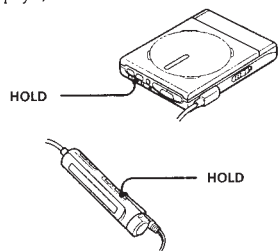



Number of the track recorded on the MD.

**Note**  
Disc and track names appear only with MDs that have been electronically labeled.

### To lock the controls

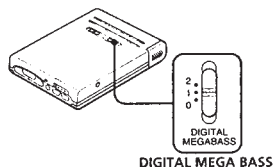
To prevent the buttons from being accidentally operated when you carry the player, use this function.



Slide HOLD on the player to lock the controls. On the remote control, slide HOLD in the direction of the  to lock the controls.

### To emphasize bass (DIGITAL MEGA BASS)

The DIGITAL MEGA BASS function intensifies low frequency sound for richer quality audio reproduction.

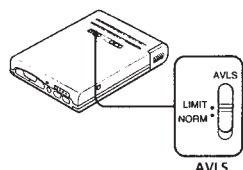


Slide DIGITAL MEGA BASS. Choose 1 (slight effect) or 2 (strong effect). To cancel the effect, set DIGITAL MEGA BASS to 0.

**Note**  
If the sound becomes distorted when emphasizing bass, turn down the volume.

### To protect your hearing (AVLS)

The AVLS (Automatic Volume Limiter System) function keeps down the maximum volume to protect your ears.






Set AVLS to LIMIT. The volume is kept at a moderate level, even if you try to turn the volume above the limited level.

## ► Power sources

### When to replace or charge the batteries

You can check the battery condition with the battery indication displayed while using the player.

-  Used batteries
-  Weak batteries. Replace all the batteries
-  The batteries have gone out. "LoBATT" flashes in the display of the remote control, and the power goes off.

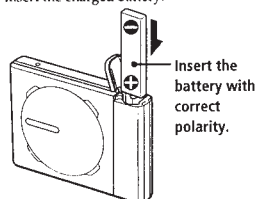
#### Battery life\*

Batteries	Playback
One LR6 (size AA) alkaline battery	Approx. 6 hours
Ni-Cd rechargeable battery (NC-6WM)	Approx. 2 hours

\* The battery life may be shorter due to operating conditions and the temperature of the location.

### Using on a rechargeable battery

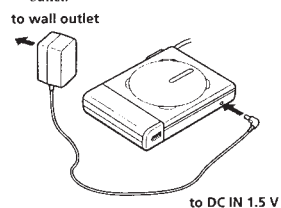
- Charge the rechargeable battery NC-6WM (not supplied) with the battery charger. Refer to the instructions manual that came with the charger for charging.
- Open the battery compartment lid and insert the charged battery.




### Using on house current

Before using the player, remove the rechargeable battery if it is installed.

- Connect the AC-E15L AC power adaptor (not supplied) to the DC IN 1.5V jack of the player.
- Connect the AC power adaptor to a wall outlet.



**Note**  
The battery indication  is displayed while using the AC power adaptor.

## ► Additional information

### Precautions

#### On safety

- Do not put any foreign objects in the DC IN 1.5 V jack.

#### On power sources

- For use in your house: Use the AC power adaptor AC-E15L (not supplied). Do not use any other AC power adaptor since it may cause the player to malfunction.



#### Polarity of the plug

- The player is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the player itself has been turned off.
- If you are not going to use this player for a long time, be sure to disconnect the power supply (AC power adaptor, dry batteries, rechargeable batteries, or car battery cord). To remove the AC power adaptor from the wall outlet, grasp the adaptor plug itself; never pull the cord.
- For use in the car: Use the C1A-9 car connecting pack and the DCC-E215 car battery cord (not supplied).

#### On heat build-up

- Heat may build up in the player if it is used for an extended period of time. In this case, leave the player to cool down.

#### On installation

- Never use the player where it will be subjected to extremes of light, temperature, moisture or vibration.
- Never wrap the player in anything when it is being used with the AC power adaptor. Heat build-up in the player may cause malfunction or injury.

#### On the headphones

##### Road safety

Do not use headphones while driving, cycling, or operating any motorized vehicle. It may create a traffic hazard and is illegal in many areas. It can also be potentially dangerous to play your player at high volume while walking, especially at pedestrian crossings. You should exercise extreme caution or discontinue use in potentially hazardous situations.

##### Preventing hearing damage

Avoid using headphones at high volume. Hearing experts advise against continuous, loud and extended play. If you experience a ringing in your ears, reduce the volume or discontinue use.

##### Caring for others

Keep the volume at a moderate level. This will allow you to hear outside sounds and to be considerate of the people around you.

#### On the MiniDisc cartridge

- Do not break open the shutter.
- Do not place the cartridge where it will be subject to light, temperature, moisture or dust.

#### On cleaning

- Clean the player casing with a soft cloth slightly moistened with water or a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzene as it may mar the finish of the casing.
- Wipe the disc cartridge with a dry cloth to remove dirt.
- Dust on the lens may prevent the unit from operating properly. Be sure to close the disc compartment lid after inserting or ejecting an MD.

#### Notes on the batteries

Incorrect battery usage may lead to leakage of battery fluid or bursting batteries. To prevent such accidents, observe the following precautions:

- Install the + and - poles of the batteries correctly.
- Do not try to recharge the batteries.
- When the player is not to be used for a long time, be sure to remove the batteries.
- If a battery leak should develop, carefully and thoroughly wipe away battery fluid from the battery compartment before inserting new ones.

#### Note on mechanical noise

The player gives out mechanical noise while operating, which is caused by the power-saving system of the player and it is not a trouble.

If you have any questions or problems concerning your player, please consult your nearest Sony dealer.

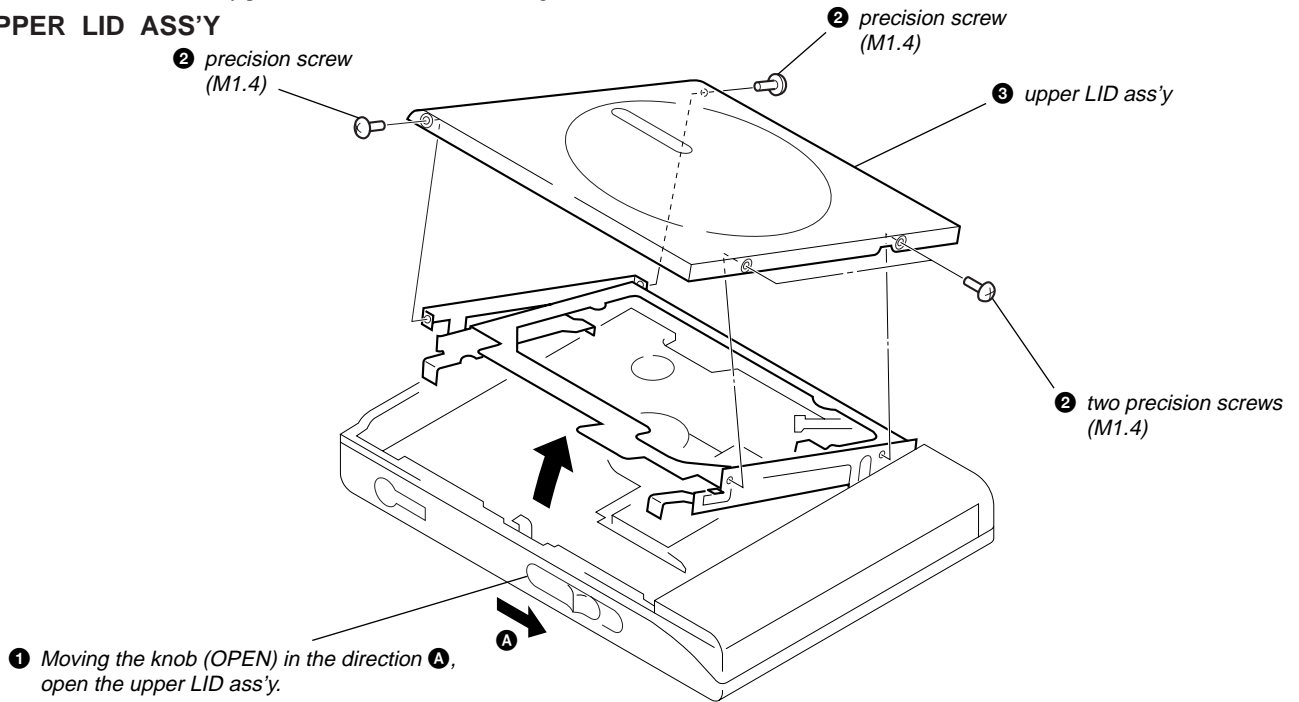
## SECTION 2 DISASSEMBLY

• This set can be disassembled in the order shown below.



**Note:** Follow the disassembly procedure in the numerical order given.

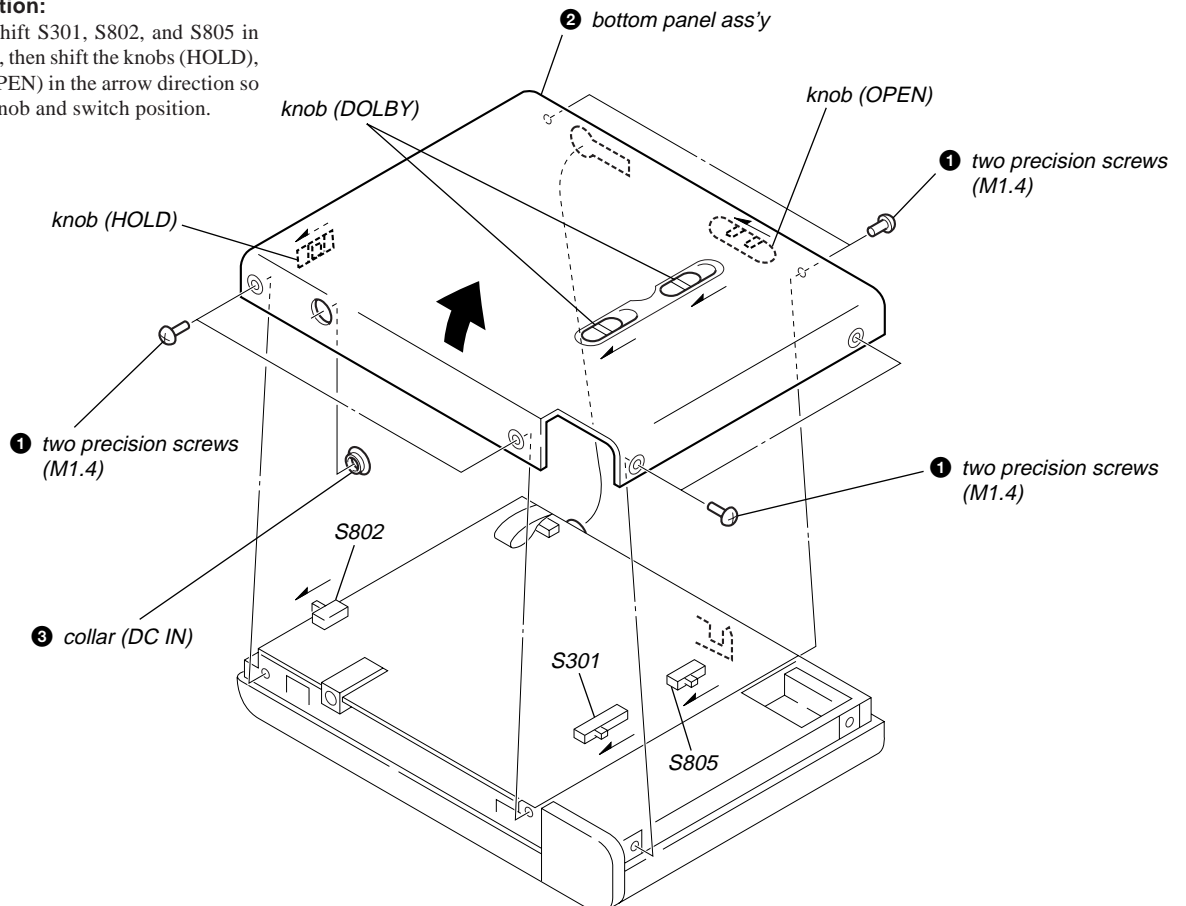
### UPPER LID ASS'Y



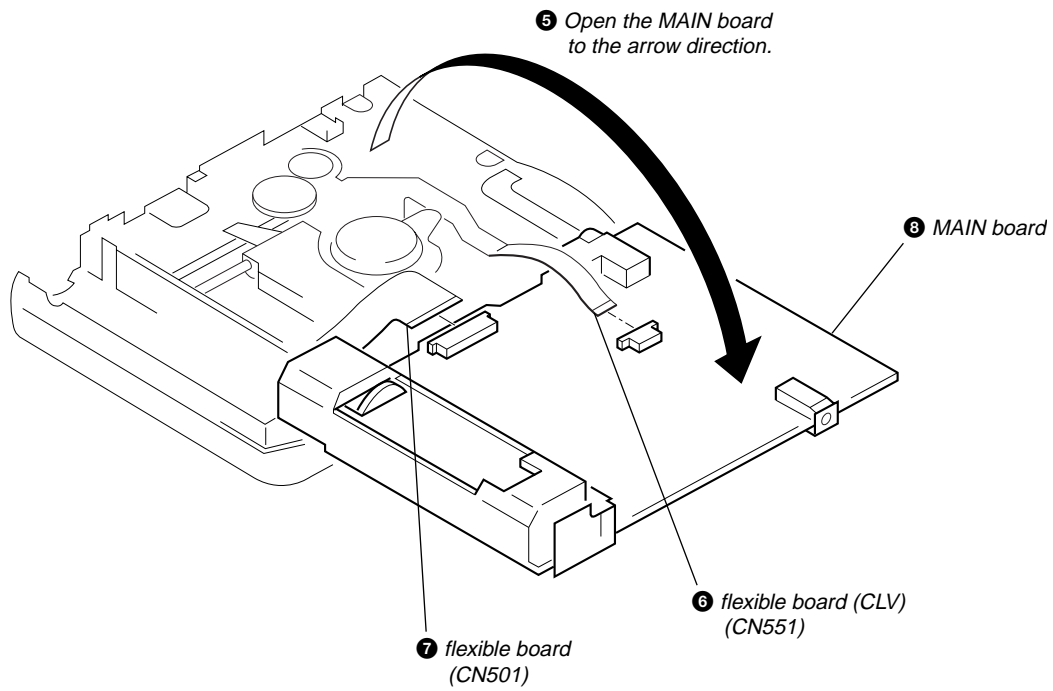
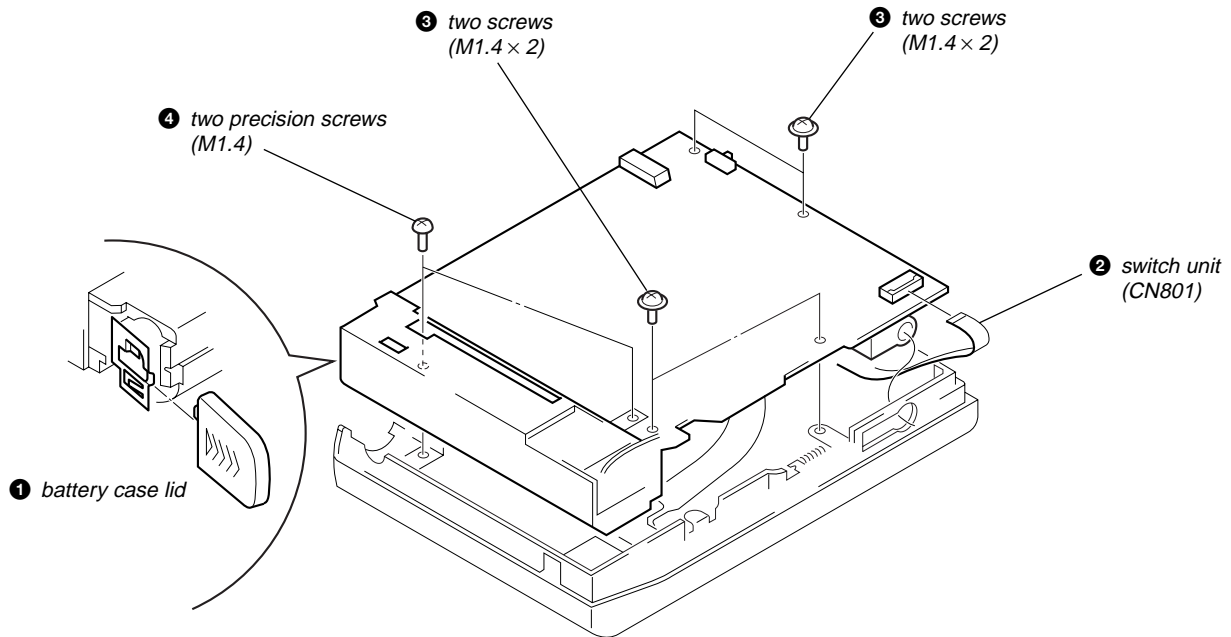
### BOTTOM PANEL ASS'Y

#### Note on installation:

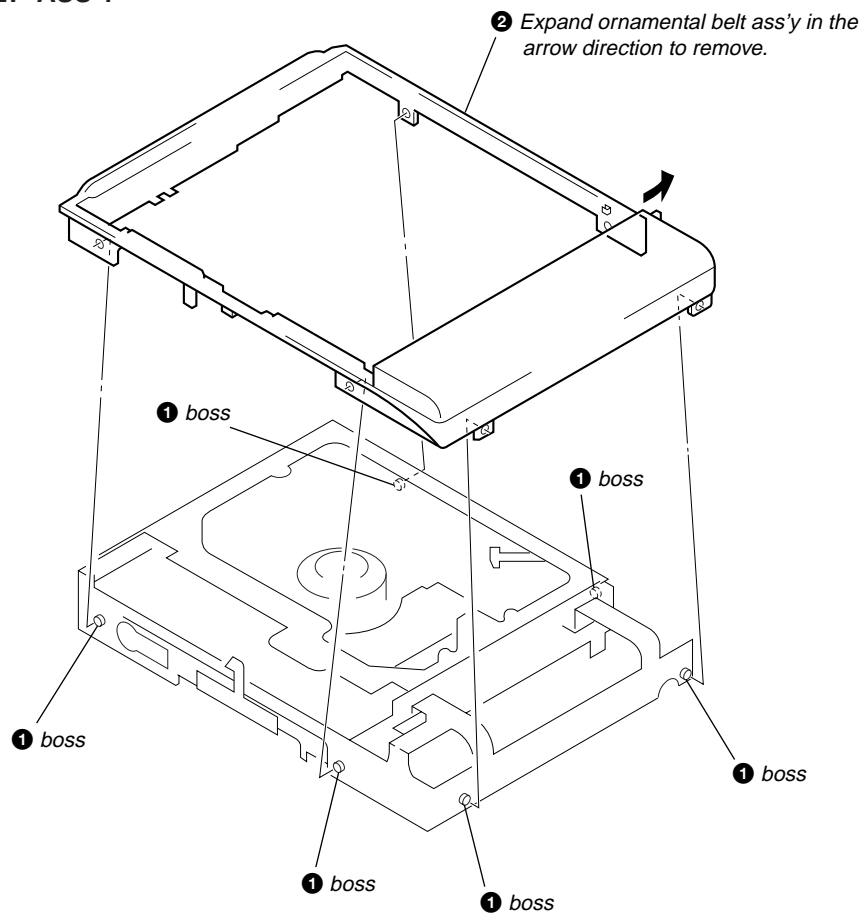
When mounting, shift S301, S802, and S805 in the arrow direction, then shift the knobs (HOLD), (DOLBY), and (OPEN) in the arrow direction so as to adjust each knob and switch position.



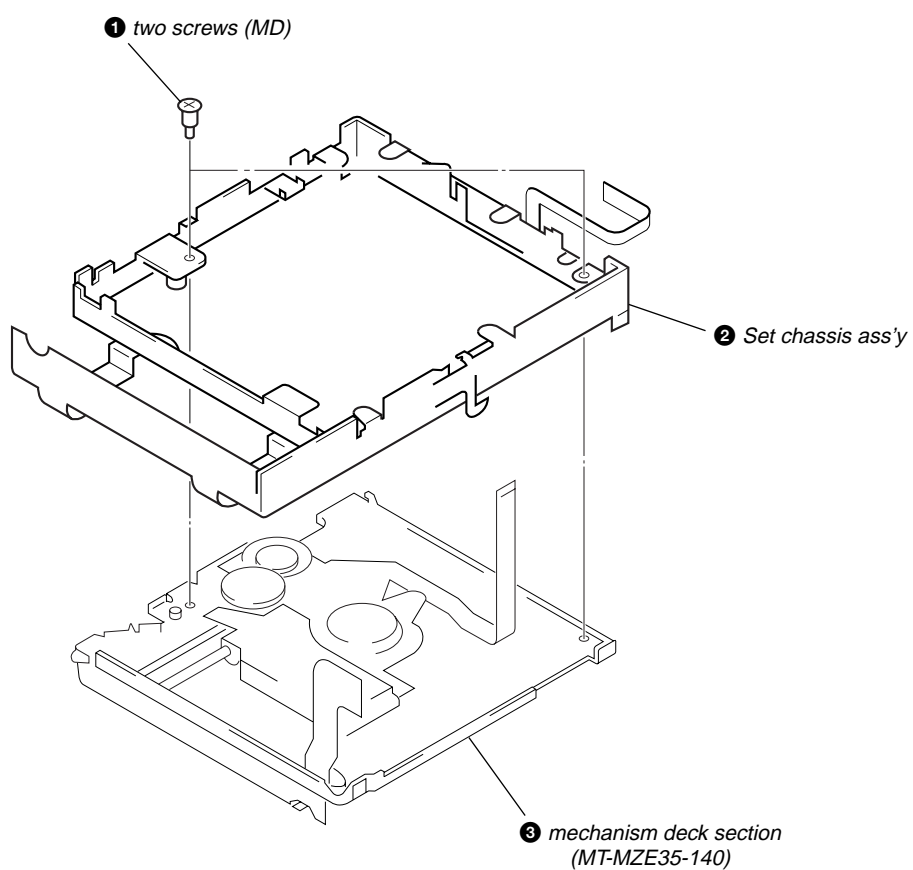
## MAIN BOARD



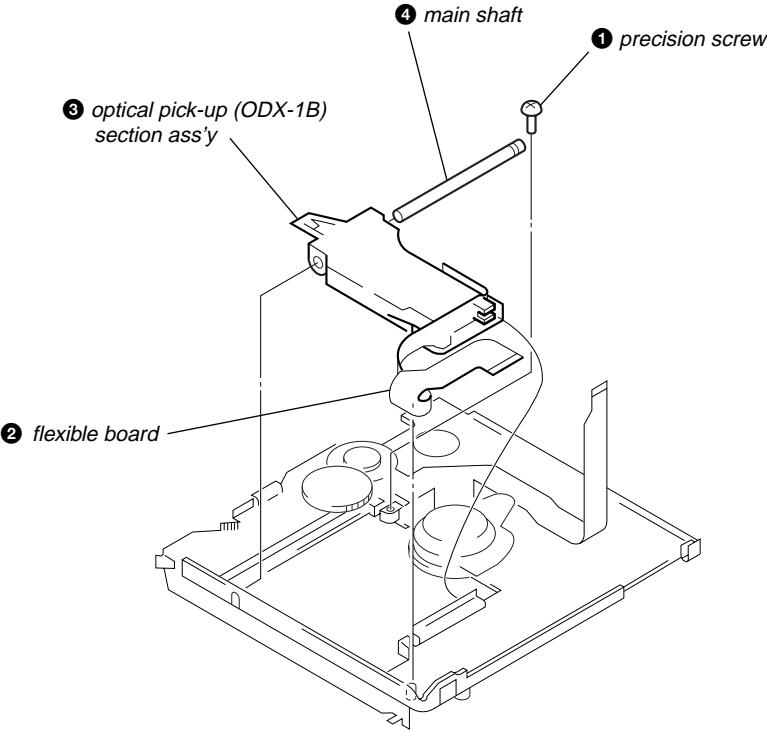
## ORNAMENTAL BELT ASS'Y



## MECHANISM DECK SECTION (MT-MZE35-140)



OPTICAL PICK-UP (ODX-1B) SECTION ASS'Y





## SECTION 3 TEST MODE

### General

- In the TEST mode, this set provides the Auto mode in which both CD and MO are adjusted automatically. In the Auto mode, whether a disc is CD or MO is discriminated, then each adjustment is automatically executed sequentially. If a fault is found, it is displayed. Also, in the Servo mode, each item can be adjusted automatically.

### Entering TEST Mode

To enter the TEST mode, the following two methods are available:

#### Method-1. Entry by key input

Turn on the HOLD switch on the main set, and while pressing ■ key on the main set, press the following keys on the remote controller in this order.

▶▶▶ → ▶▶▶ → ◀◀◀ → ◀◀◀ → ▶▶▶ → ◀◀◀ → ▶▶▶ → ◀◀◀ → ◀◀◀ → ◀◀◀

#### Method-2. Entry by shorting the test point

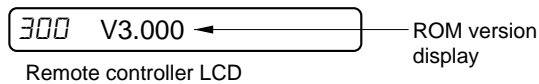
Bridge the TAP801 (TEST) with a solder (connect IC801 ③ to GND) on the MAIN board, turn on the POWER switch, and press ▶ key.

### Releasing TEST Mode

- Turn off the POWER switch.
- Remove the solder bridge from TAP801 (TEST) on the MAIN board. (This is required only when using Method-2.)

### Operation in TEST Mode

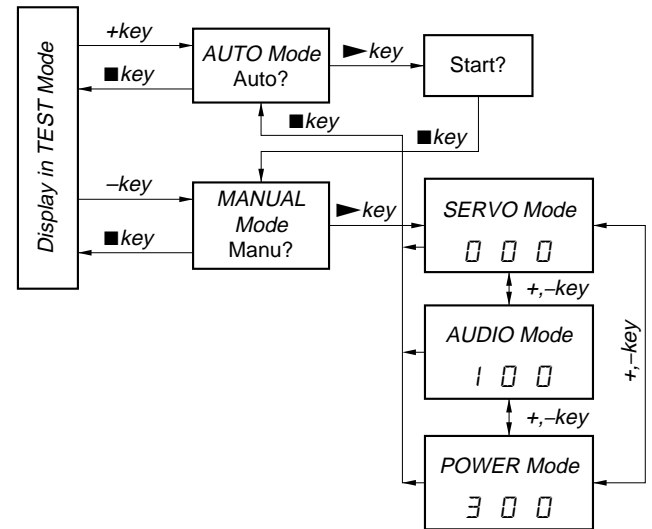
In the TEST mode, the Remote controller LCD display is as shown below:



- ROM version display → All ON → All OFF are repeated.
- To hold the display for confirmation, press the PLAY MODE key.

### Configuration of TEST Mode

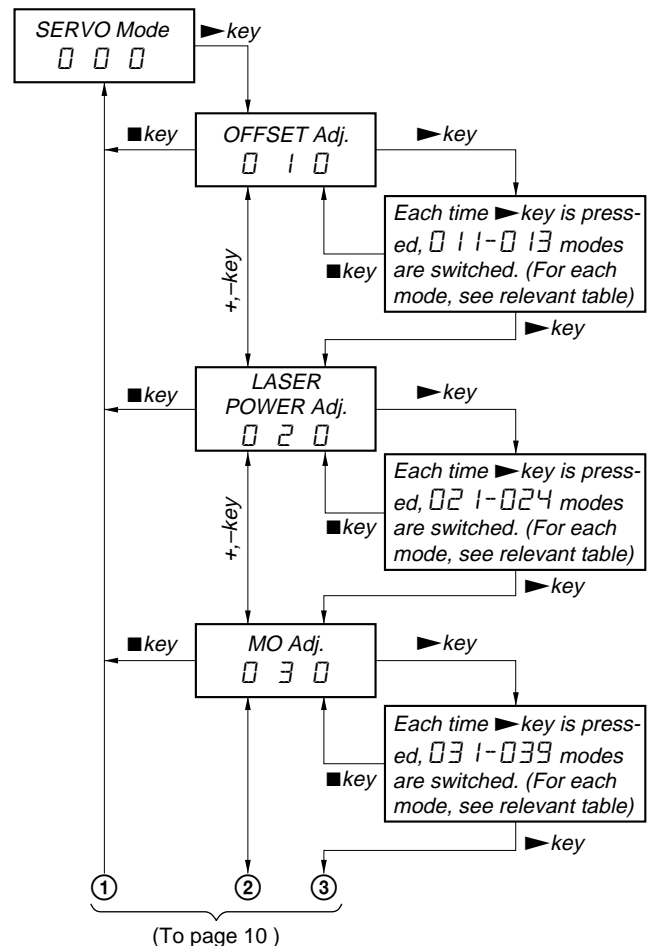
The TEST mode configuration of this set is as follows:

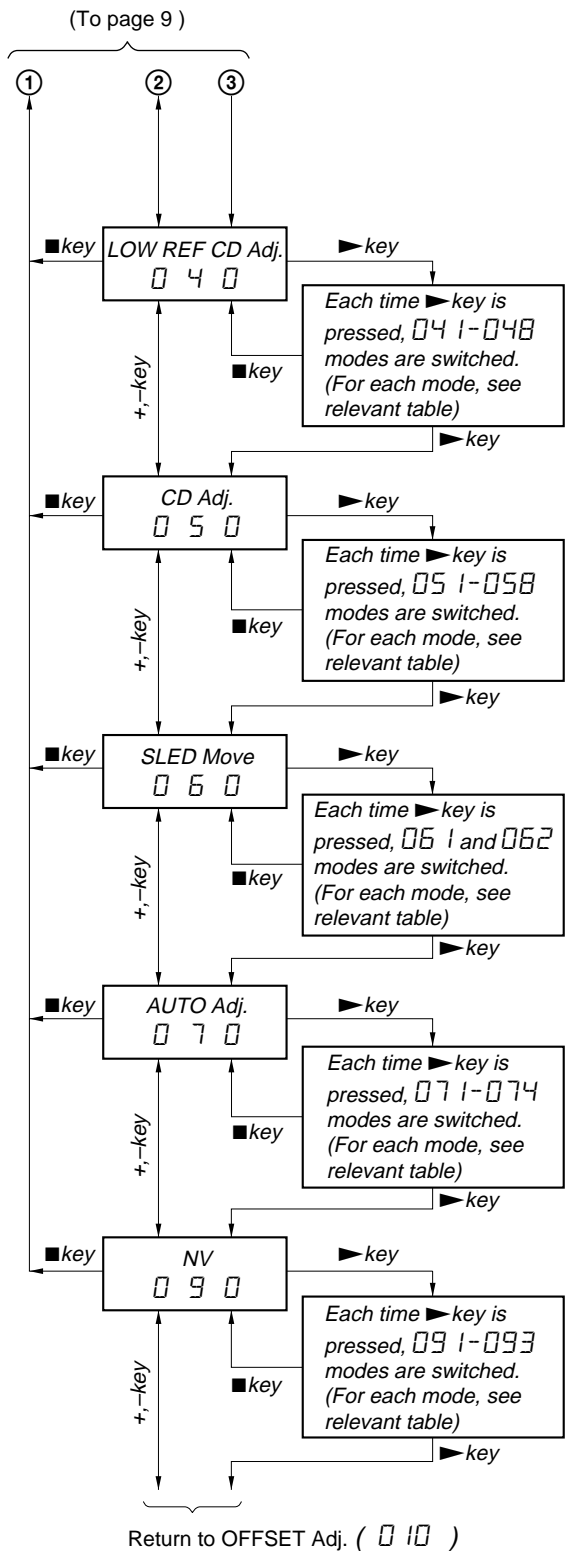


### SERVO Mode

- Enter the TEST mode, press VOL – key and ▶ key to select the SERVO mode.
- When the second digit of mode number is not 0 and the first digit is 0 (010, 020, 030, etc.), the optical pickup moves to outside track or inside track with ▶▶▶ key or ◀◀◀ key respectively.
- To select other modes, refer to the TEST mode configuration.

#### 1. Configuration of SERVO Mode





## 2. Description of Each Mode

### 010 Offset Adjustment

Mode	Description
011	Focus error offset
012	Tracking error offset
013	All servo ON

### 020 Laser Power Adjustment

Mode	Description
021	MO power A
022	Low reflection CD power E
023	Low reflection CD power
024	CD power

### 030 MO Adjustment

Mode	Description
031	MO EF balance (MO traverse)
032	MO EF gain
033	MO ABCD gain
034	MO focus gain
035	MO tracking gain
036	MO RF gain
037	MO ADIP gain
038	MO focus bias E
039	MO focus bias A

### 040 Low Reflection CD Adjustment

Mode	Description
041	Low reflection CD EF balance (CD traverse)
042	Low reflection CD EF gain
043	Low reflection CD ABCD gain
044	Low reflection CD focus gain
045	Low reflection CD tracking gain
046	Low reflection CD RF offset
047	Low reflection CD RF gain
048	Low reflection CD focus bias

### 050 CD Adjustment

Mode	Description
051	CD EF balance
052	CD EF gain
053	CD ABCD gain (CD RF level check)
054	CD focus gain
055	CD tracking gain
056	CD RF offset
057	CD RF gain
058	CD focus bias

## 060 Sled Movement

Mode	Description
061	Sled IN
062	Sled OUT 5

## 070 Auto Adjustment

Mode	Description
071	Focus search
072	Access 32
073	ADER check
074	Tracking gain correction

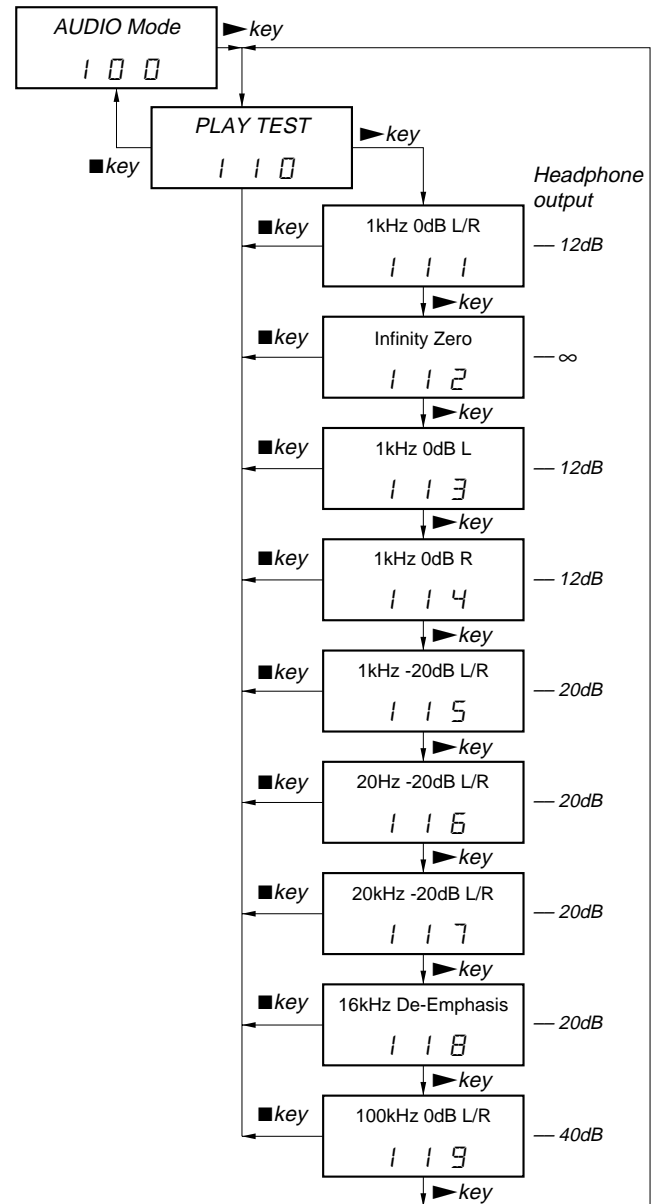
## 090 NV

Mode	Description
091	NV clear
092	Power OFF

## AUDIO Mode

- Enter the TEST mode, and press VOL – key, ► key, and VOL + key in this order to select the AUDIO mode.
- To select other modes, refer to the TEST mode configuration.

### 1. Configuration of AUDIO Mode



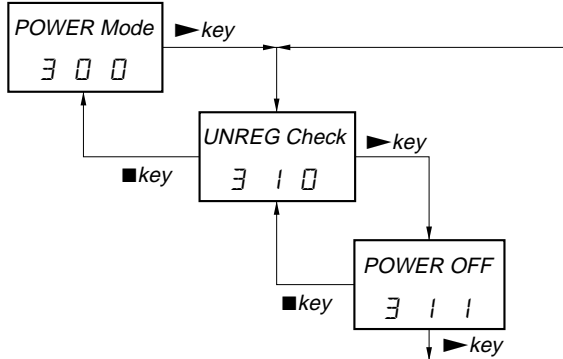
- The mode No.112 is for S/N and cross talk, and 115 for distortion factor and frequency characteristic.
- When VOL + / – key is pressed in any mode, the headphone volume changes every step. Also, When ►► or ◀◀ key is pressed, the headphone volume becomes maximum or minimum.
- Once the volume level was changed, fundamentally it continues, but it returns to default value when the mode is changed from 114 to 115, or 118 to 119.

## SECTION 4 ELECTRICAL ADJUSTMENTS

### POWER Mode

- Enter the TEST mode, and press VOL – key, ► key, and VOL – key in this order to select the POWER mode.
- To select other modes, refer to the TEST mode configuration.

#### 1. Configuration of POWER Mode

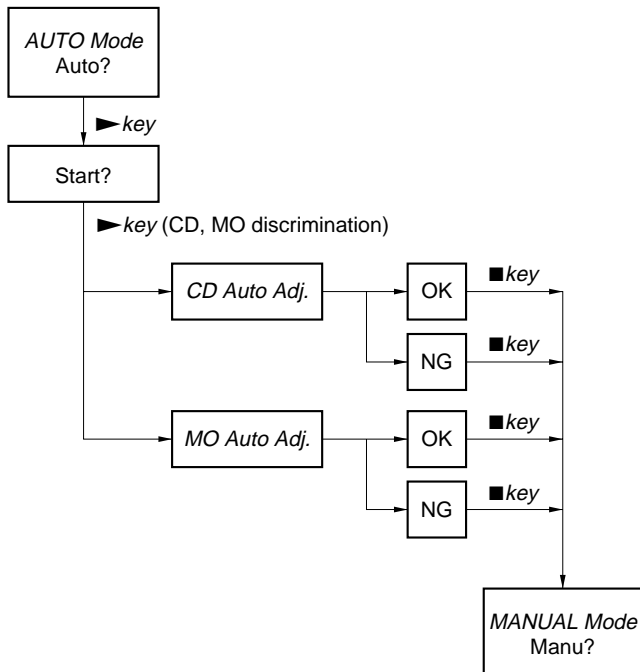


### AUTO Mode

- Enter the TEST mode, and press VOL + key to select the AUTO mode.
- To select other modes, refer to the TEST mode configuration.
- In the AUTO mode, the Remote controller LCD display is as shown below:

343 Auto?

#### 1. Configuration of AUTO Mode



### Precautions on Adjustment

- In this set, the CD and MO adjustment can be executed automatically by selecting the TEST mode.
- Execute adjustment in the AUTO mode, then if NG occurred, readjust faulty item in the SERVO mode.

### Adjustment in AUTO Mode

1. Enter the TEST mode, and press VOL + key to select the AUTO mode.
2. Insert the CD Test disc (TDYS-1) or commercially available SONY MO disc (already recorded).
3. Press ► key twice, and the CD or MO is discriminated, then respective items are automatically adjusted in the order as listed in tables below.

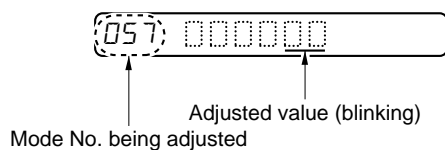
#### • CD AUTO Adjustment

No.	Mode	Description
1	061	Sled IN
2	071	Focus search
3	062	Sled OUT 5
4	051	CD EF balance
5	052	CD EF gain
6	051	CD EF balance
7	053	CD ABCD gain
8	054	CD focus gain
9	055	CD tracking gain
10	056	CD RF offset
11	057	CD RF gain
12	056	CD RF offset
13	058	CD focus bias
14	073	ADER check
15	074	Biaxial gain correction

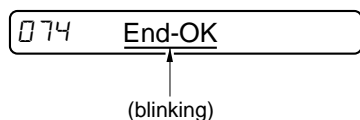
• MO AUTO Adjustment

No.	Mode	Description
1	061	Sled IN
2	071	Focus search
3	062	Sled OUT
4	031	MO EF balance
5	032	MO EF gain
6	031	MO EF balance
7	033	MO ABCD gain
8	034	MO focus gain
9	035	MO tracking gain
10	036	MO RF gain
11	037	MO ADIP gain
12	039	MO focus bias A
13	073	ADER check
14	061	Sled IN
15	071	Focus search
16	041	Low reflection CD EF balance
17	042	Low reflection CD EF gain
18	041	Low reflection CD EF balance
19	043	Low reflection CD ABCD gain
20	044	Low reflection CD focus gain
21	045	Low reflection CD tracking gain
22	046	Low reflection CD RF offset
23	047	Low reflection CD RF gain

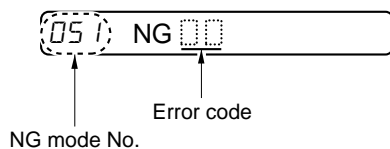
\* Remote controller LCD display during automatic adjustment.



4. If automatic adjustment result is OK, the display is as follows:



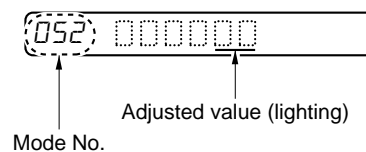
5. If automatic adjustment result is NG, the display is as follows:



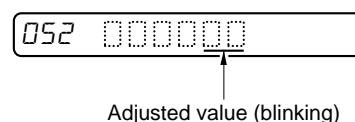
\* In case of NG, select the SERVO mode, and readjust NG item automatically.

### Adjustment in SERVO Mode

1. Select each adjusting mode following the configuration of SERVO mode, and the lower 2 digits of mode number and the adjusted value written to the EEPROM are displayed on the LCD.

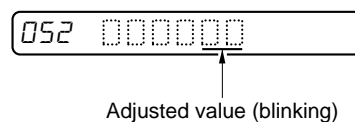


2. Press **||** key, and the display changes as shown below and automatic adjustment is executed.



**Note:** Though the adjusted value can be changed to any value with VOL + or – key, avoid frequent change.

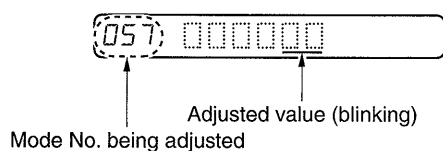
3. When automatic adjustment is finished, the adjusted value changes from blinking to lighting.



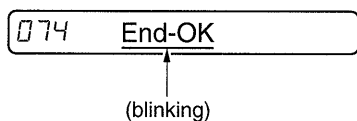
• MO AUTO Adjustment

No.	Mode	Description
1	061	Sled IN
2	071	Focus search
3	062	Sled OUT
4	031	MO EF balance
5	032	MO EF gain
6	031	MO EF balance
7	033	MO ABCD gain
8	034	MO focus gain
9	035	MO tracking gain
10	036	MO RF gain
11	037	MO ADIP gain
12	039	MO focus bias A
13	073	ADER check
14	061	Sled IN
15	071	Focus search
16	041	Low reflection CD EF balance
17	042	Low reflection CD EF gain
18	041	Low reflection CD EF balance
19	043	Low reflection CD ABCD gain
20	044	Low reflection CD focus gain
21	045	Low reflection CD tracking gain
22	046	Low reflection CD RF offset
23	047	Low reflection CD RF gain

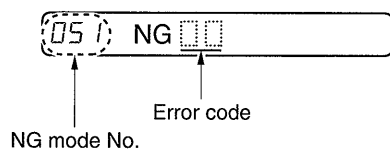
\* Remote controller LCD display during automatic adjustment.



4. If automatic adjustment result is OK, the display is as follows:



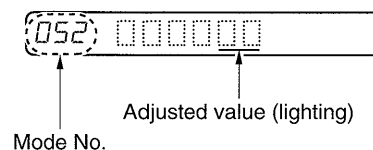
5. If automatic adjustment result is NG, the display is as follows:



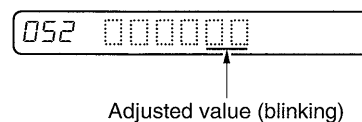
\* In case of NG, select the SERVO mode, and readjust NG item automatically.

**Adjustment in SERVO Mode**

1. Select each adjusting mode following the configuration of SERVO mode, and the lower 2 digits of mode number and the adjusted value written to the EEPROM are displayed on the LCD.

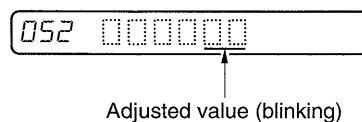


2. Press **||** key, and the display changes as shown below and automatic adjustment is executed.



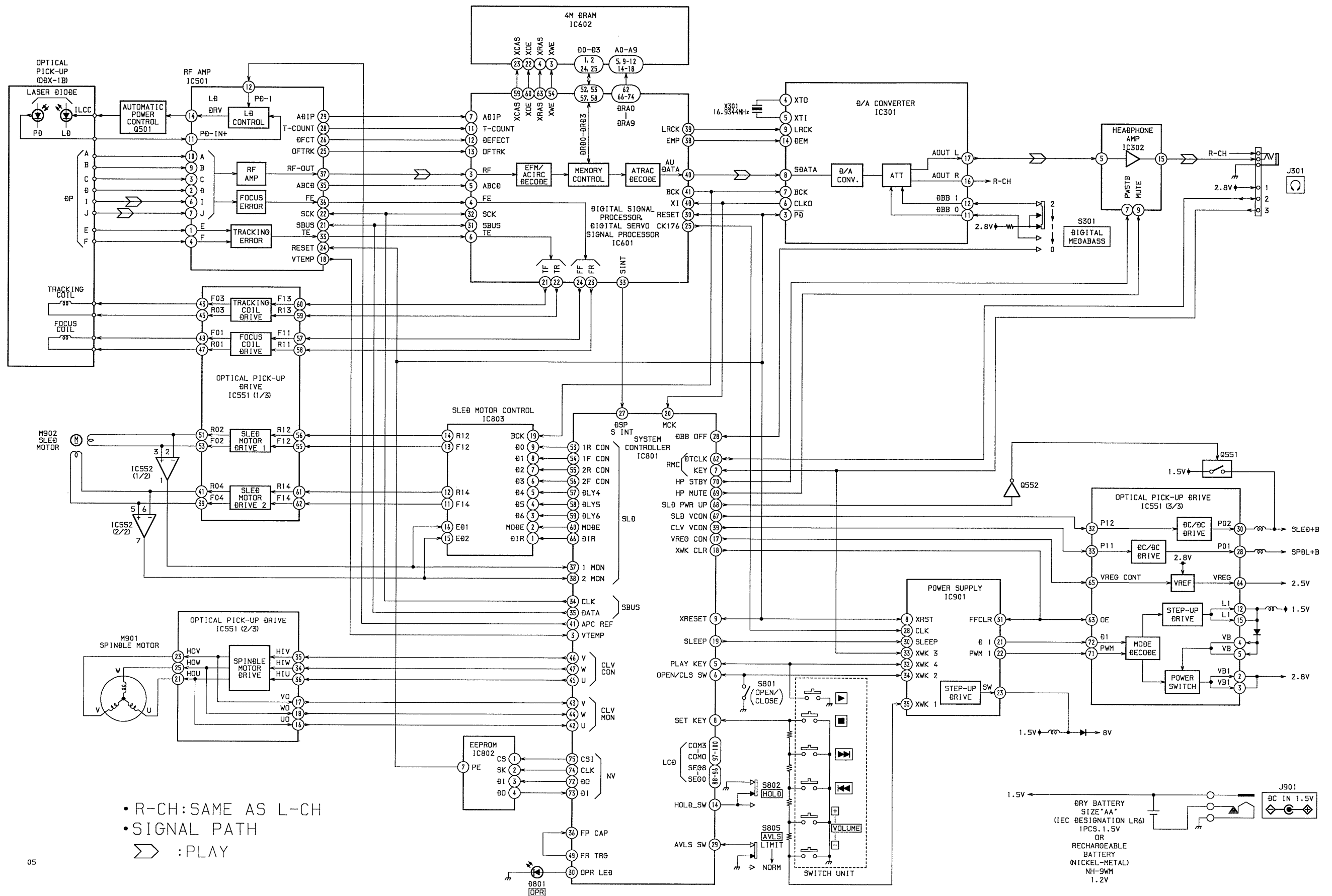
**Note:** Though the adjusted value can be changed to any value with VOL + or – key, avoid frequent change.

3. When automatic adjustment is finished, the adjusted value changes from blinking to lighting.



# SECTION 5 DIAGRAMS

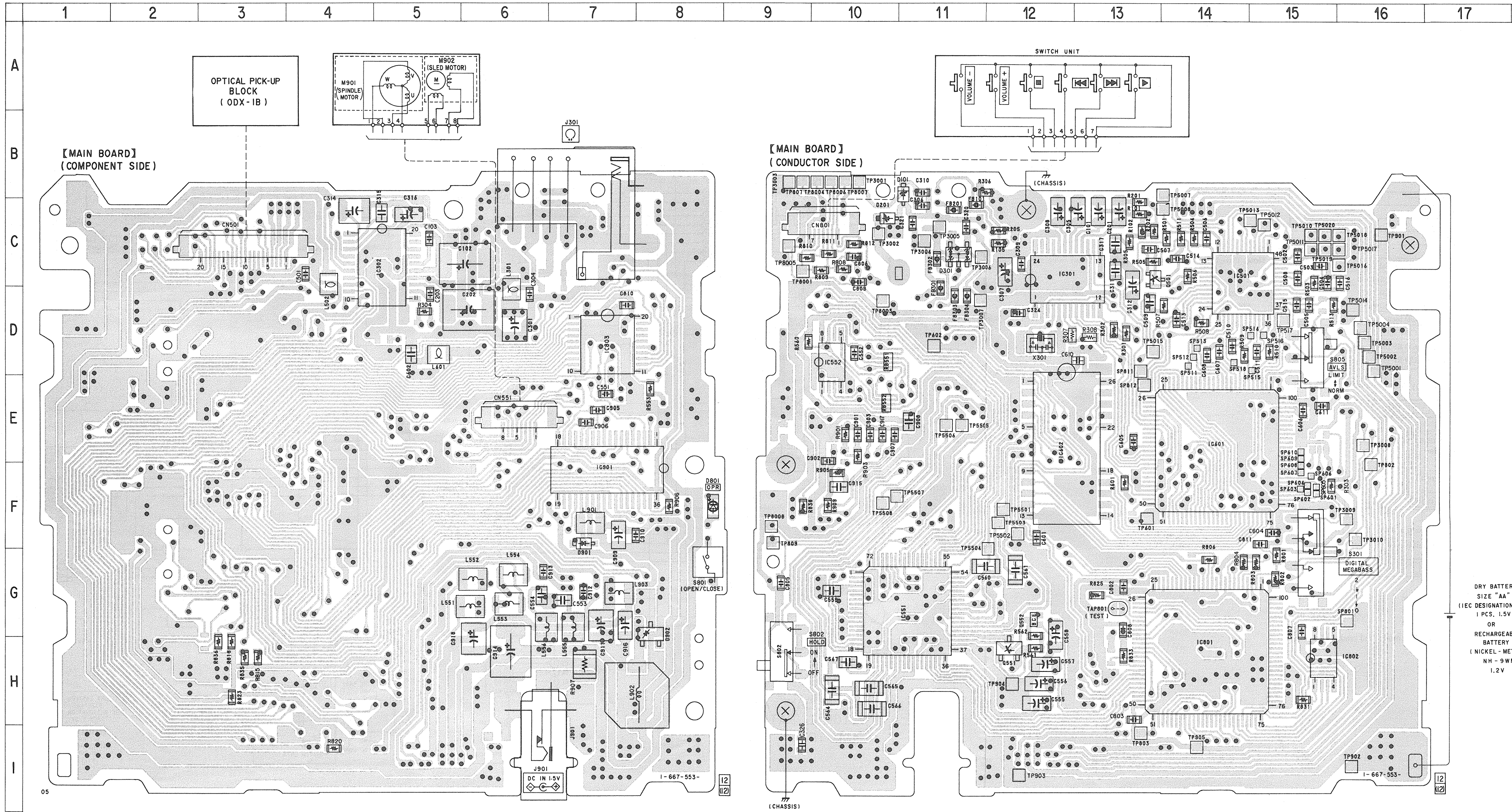
## 5-1. BLOCK DIAGRAM



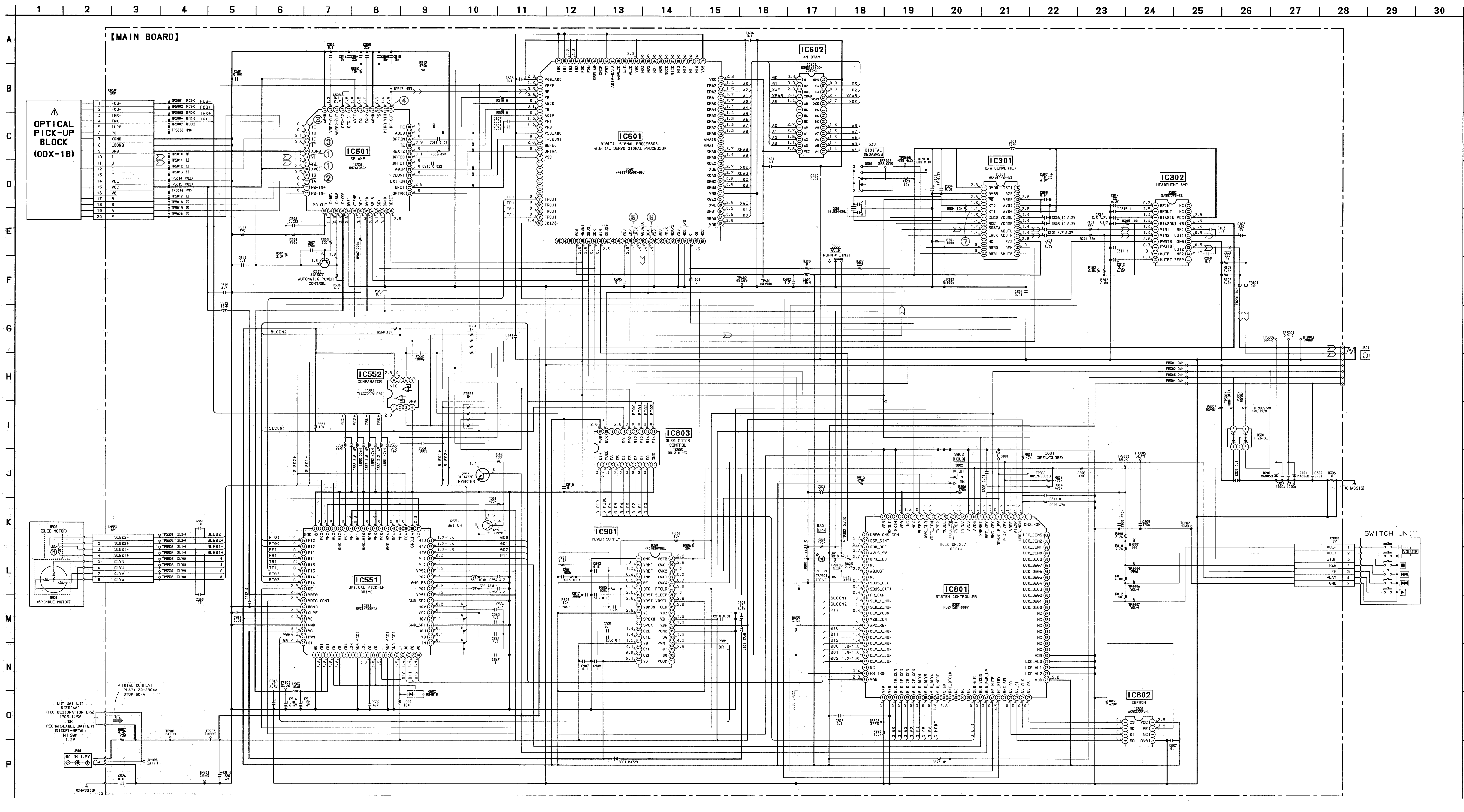


• Semiconductor Location

Ref. No.	Location
D101	B-11
D201	C-10
D301	C-11
D801	F-8
D901	F-7
D902	G-8
IC301	C-12
IC302	C-5
IC501	C-14
IC551	G-11
IC552	D-10
IC601	E-14
IC602	E-12
IC801	H-14
IC802	H-15
IC803	D-7
IC901	F-7
Q501	C-13
Q551	H-12
Q552	G-12

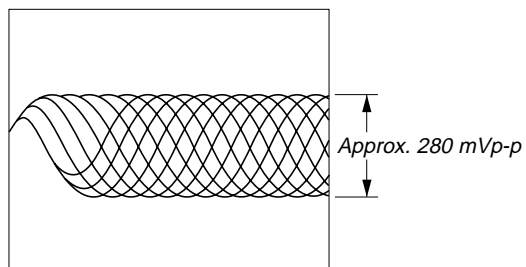




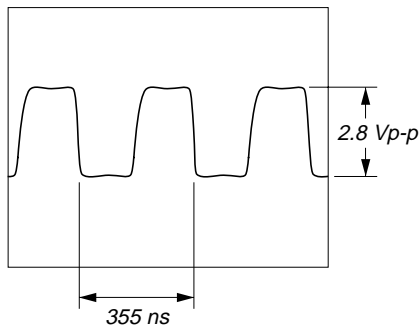


## • Waveforms

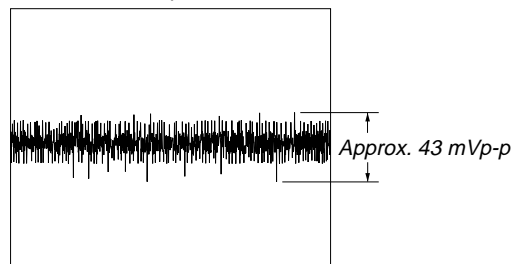
❶ IC501 ⑥, ⑦ (VI, VJ) (Play Mode)  
500 mV/DIV, 500 ns/DIV



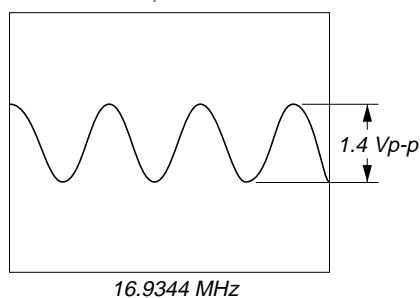
❷ IC601 ④ (BCK) (Play Mode)  
1 V/DIV, 200 ns/DIV



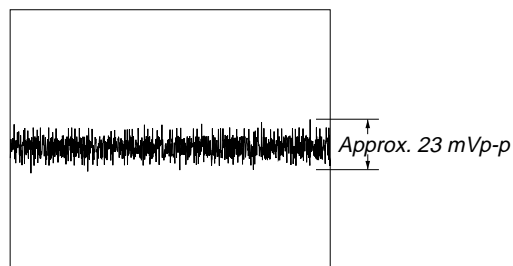
❸ IC501 ⑩ (IA) (Play Mode)  
20 mV/DIV, 1 μs/DIV



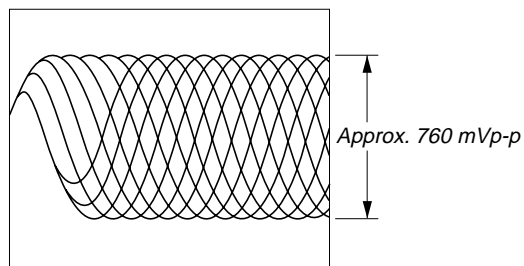
❹ IC301 ⑤ (XT1) (Play Mode)  
500 mV/DIV, 20 ns/DIV



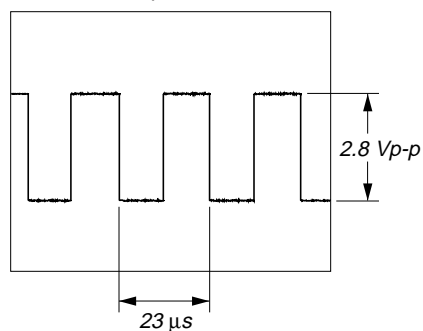
❺ IC501 ①, ④ (IE, IF) (Play Mode)  
10 mV/DIV, 500 ns/DIV



❻ IC501 ③⑦ (RF-OUT) (Play Mode)  
200 mV/DIV, 500 ns/DIV

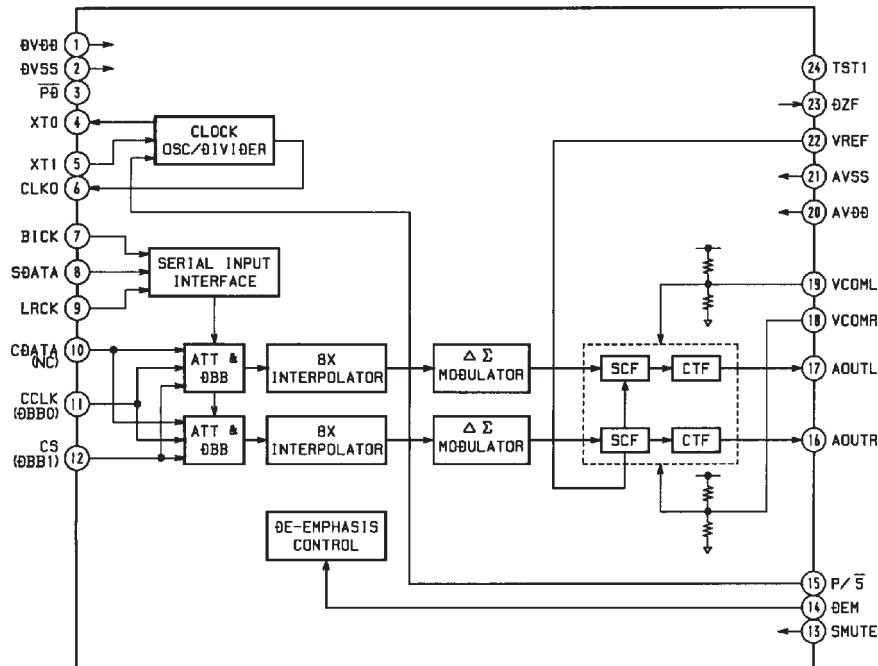


❼ IC601 ③⑨ (LRCK) (Play Mode)  
1 V/DIV, 10 μs/DIV

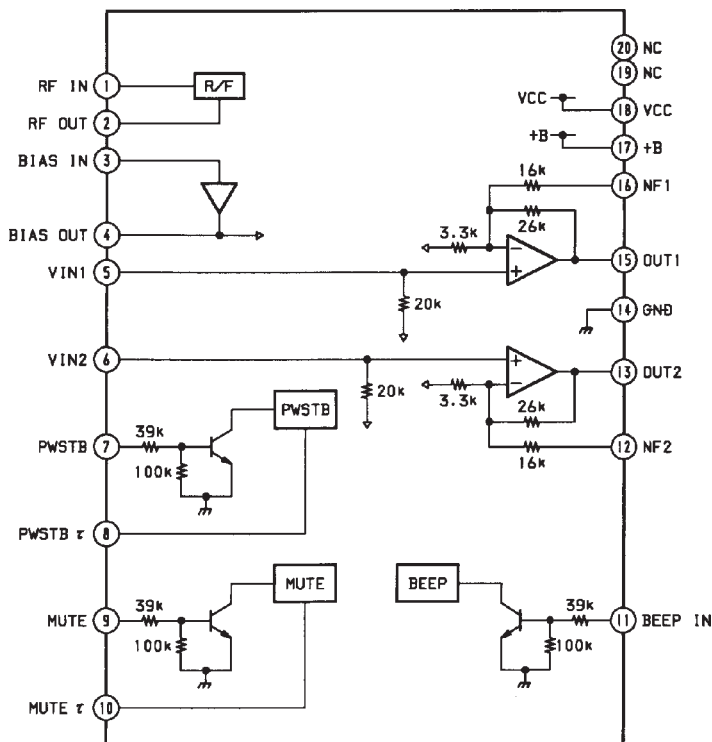


## • IC Block Diagrams

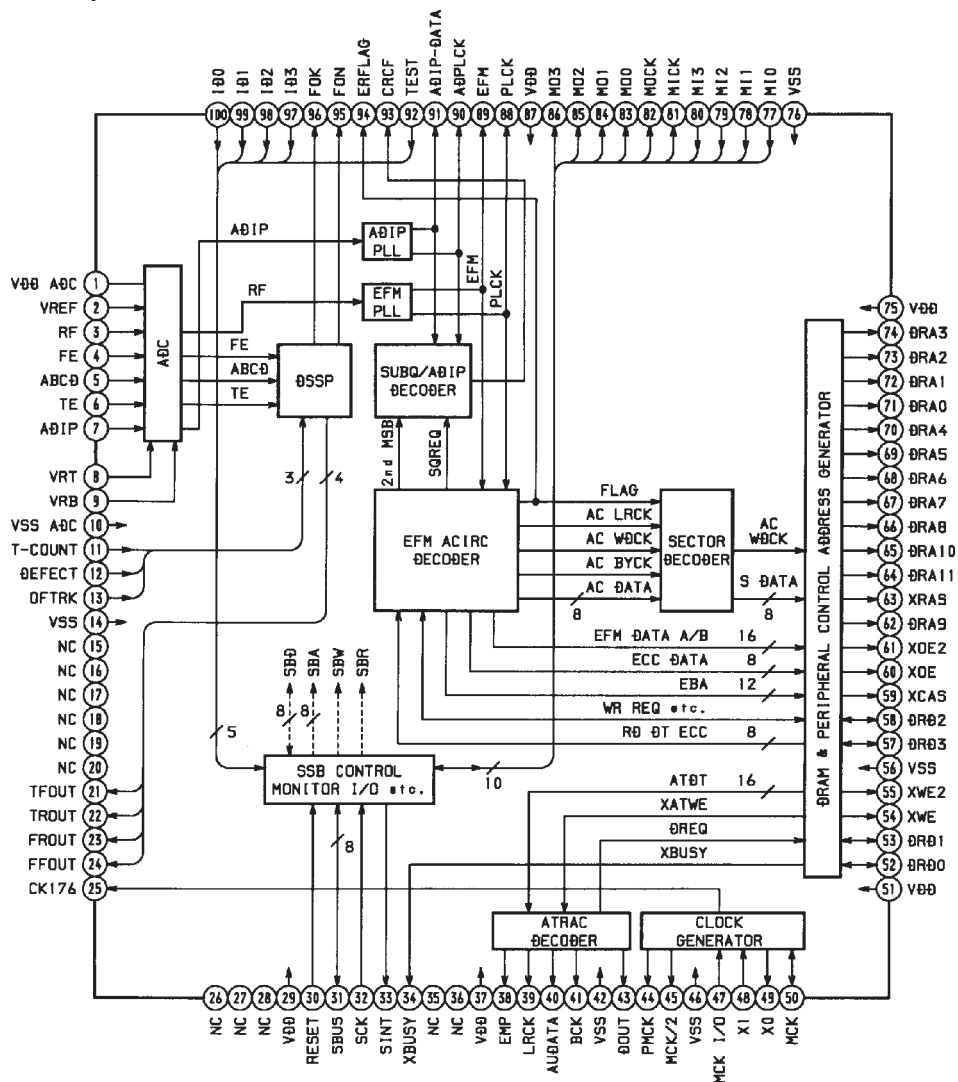
### IC301 AK4314-VF-E2



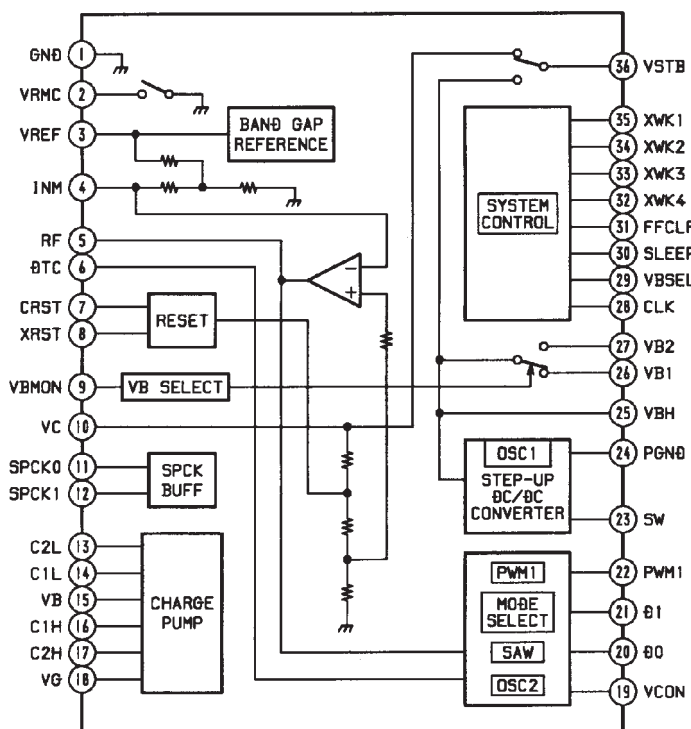
### IC302 BA3577FS-E2



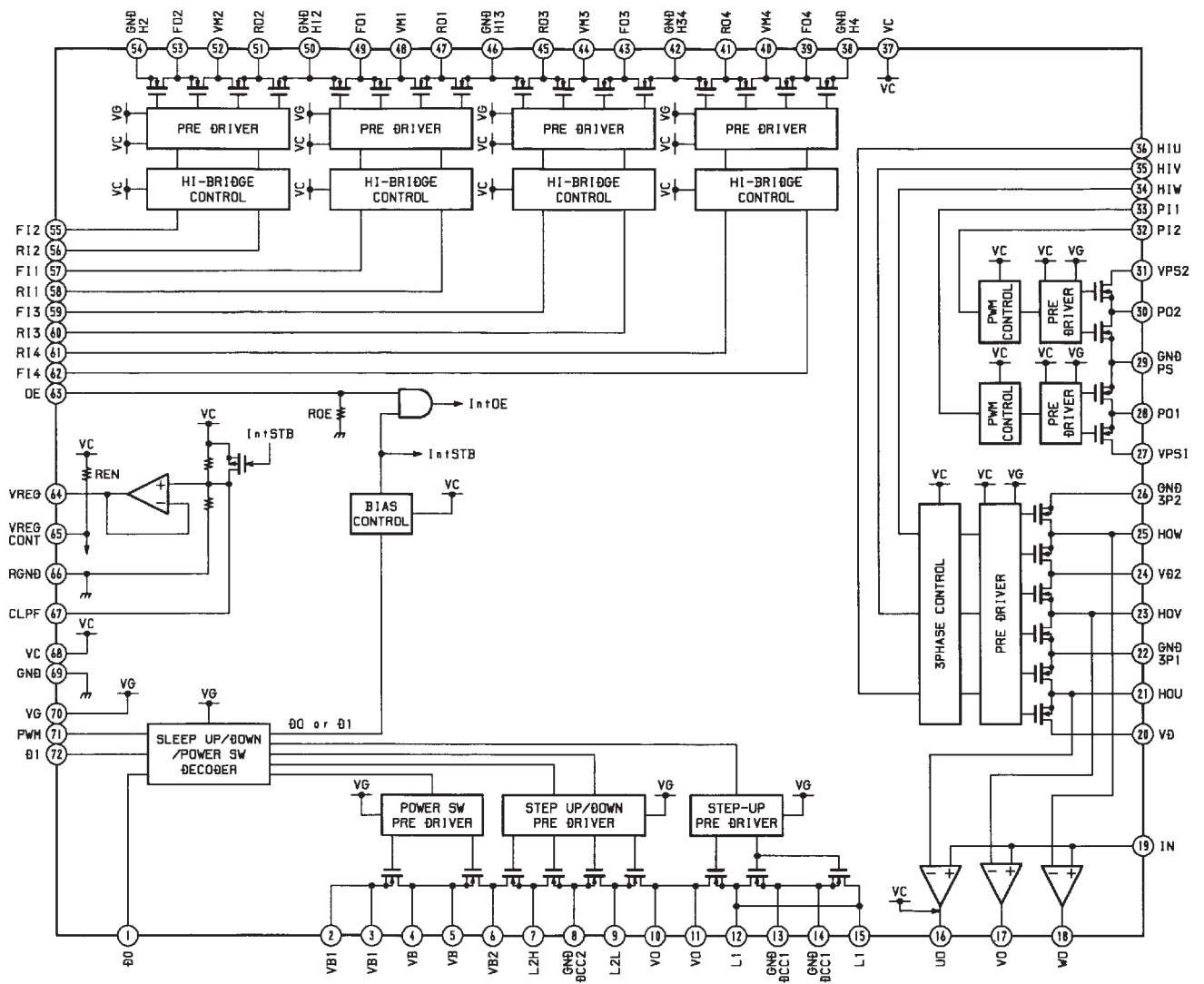
# IC601 $\mu$ PD63730AGC-9EU



# IC901 MPC1830VMEL



# IC551 MPC17A55FTA



#### 5-4. IC PIN FUNCTION DESCRIPTION

##### • MAIN BOARD IC501 SN761050A (RF AMPLIFIER)

Pin No.	Pin Name	I/O	Function
1 to 4	IE, ID, IC, IF	I	Signal input from the optical pick-up detector
5	AGND	—	Ground terminal (analog system)
6	VI	I	I-V converted RF signal I input from the optical pick-up block detector
7	VJ	I	I-V converted RF signal J input from the optical pick-up block detector
8	AVCC	—	Power supply terminal (+2.5V) (analog system)
9, 10	IB, IA	I	Signal input from the optical pick-up detector
11	PD-IN +	I	Light amount monitor input terminal (non-invert input)
12	PD-IN –	I	Light amount monitor input terminal (invert input)
13	PD-OUT	O	Light amount monitor output terminal
14	LD-DRV	O	Laser amplifier output terminal to the automatic power control circuit
15	LD-SNS	I	Laser drive current detector input terminal
16	LD-VDD	I	Laser power supply voltage detector input terminal
17	DVA1	I	Serial device code A1 (fixed at “L” in this set)
18	VTEMP	O	Temperature sensor detection signal output to the system controller (IC801)
19	REXT1	—	Connected to external resistor for the temperature sensor control
20	DVDD	—	Power supply terminal (+3V) (digital system)
21	SBUS	I	Serial data input from the system controller (IC801)
22	SCK	I	Serial data transfer clock signal input from the system controller (IC801)
23	DGND	—	Ground terminal (digital system)
24	RESET	I	System reset signal input from the MPC1830VMEL (IC901) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
25	OFTRK	O	Ofrack detection signal output to the D.S.P. (IC601)
26	DFCT	O	Defect detection signal output to the D.S.P. (IC601)
27	EXT-IN	I	External timing count signal input terminal Not used (open)
28	T-COUNT	O	Timing count signal output to the D.S.P. (IC601)
29	ADIP	O	ADIP duplex signal (22.05 kHz $\pm$ 1 kHz) output to the D.S.P. (IC601)
30	BPFC1	—	Connected to the external capacitor for cutting the low band of the ADIP amplifier
31	BPFC0	—	Connected to the external capacitor for cutting the low band of the ADIP amplifier
32	REXT2	—	Connected to external resistor for the ADIP amplifier control
33	TE	O	Tracking error signal output to the D.S.P. (IC601)
34	OFTIN	I	Ofrack detection signal input terminal
35	ABCD	O	Light amount signal (ABCD) output to the D.S.P. (IC601)
36	FE	O	Focus error signal output to the D.S.P. (IC601)
37	RF-OUT	O	Playback EFM RF signal output to the D.S.P. (IC601)
38	MIRR-VTH	I	Threshold setting terminal for the mirror comparator
39	PS	—	Phase shifter for the RF amplifier
40	AGND	—	Ground terminal (analog system)
41	EQ-2	—	Center frequency setting terminal for the internal circuit (RF EQ)
42	EQ-1	—	Center frequency setting terminal for the internal circuit (RF EQ)
43	AVCC	—	Power supply terminal (+2.5V) (analog system)
44	OFC-C1	—	Connected to the external capacitor for DC canceller
45	OFC-C2	—	Connected to the external capacitor for DC canceller
46	VREF2-OUT	O	Reference voltage output terminal Not used (open)
47	VREF-OUT	O	Reference voltage output terminal (+1.25V)
48	AGND	—	Ground terminal (analog system)



• MAIN BOARD IC801 RU6715MF-0007 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	CHG MON	I	Charge voltage monitor input terminal Not used (fixed at “L”)
2	UREG MON	I	Un-regulator voltage monitor input terminal
3	VTEMP	I	Temperature sensor detection signal input from the RF amplifier (IC501)
4	VREF	I	Reference voltage (+1.25V) input from the RF amplifier (IC501)
5	PLAY KEY	I	Inputs of ► PLAY key on the switch unit “L” active
6	OPEN/CLS SW	I	Upper panel open/close detection input from the open/close detect switch (S801) “L”: close, “H”: open
7	RMC KEY	I	Key input from the headphone with remote commander
8	SET KEY	I	Inputs of ■ STOP, ►►/◄◄ FF/REW and VOLUME +/- keys on the switch unit (A/D input)
9	XRESET	I	System reset signal input from the MPC1830VMEL (IC901) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
10	AVDD	—	Power supply terminal (+3V) (analog system)
11	AVSS	—	Ground terminal (analog system)
12	TYPE 0	I	Destination setting terminal (fixed at “H”)
13	TYPE 1	I	Destination setting terminal (fixed at “H”)
14	HOLD SW	I	Hold switch (S802) input terminal “H”: hold on, “L”: hold off
15	MODEL	I	Destination setting terminal (fixed at “L”)
16	TYPE 2	I	Destination setting terminal (fixed at “L”)
17	VREG CON	O	+2.5V power supply on/off control signal output to the optical pick-up driver (IC551) “H”: power on
18	XWK CLR	O	Enable signal output to the optical pick-up driver (IC551) and MPC1830VMEL (IC901)
19	SLEEP	O	System sleep control signal output to the MPC1830VMEL (IC901) “H”: sleep on
20	MCK	I	Master clock input from the D/A converter (IC301)
21	NC	O	Master clock output terminal Not used (open)
22	VDD	—	Power supply terminal (+3V) (digital system)
23	SXIN	I	Sub system clock input terminal Not used (fixed at “L”)
24	SXOUT	O	Sub system clock output terminal Not used (open)
25	VSS	—	Ground terminal (digital system)
26	UREG CHK CON	O	Un-regulator voltage monitor control signal output terminal Not used (open)
27	DSP SINT	I	Interrupt signal input from the D.S.P. (IC601)
28	DBB OFF	I	Digital mega-bass on/off detection input from the DIGITAL MEGA BASS switch (S301) “H”: digital mega-bass off
29	AVLS SW	I	AVLS (Automatic Volume Limiter System) switch (S805) input terminal “L”: limit, “H”: normal
30	OPR LED	O	Operation LED (D801) drive signal output terminal “H”: LED on
31	NC	O	Not used (open)
32	ADJUST	I	Setting terminal for the test mode “L”: test mode, “H”: normal mode
33	NC	O	Not used (open)
34	SBUS CLK	O	Serial data transfer clock signal output to the RF amplifier (IC501) and D.S.P. (IC601)
35	SBUS DATA	O	Serial data output to the RF amplifier (IC501) and D.S.P. (IC601)
36	FR CAP	I	Free-run counter capture input terminal
37	SLD 1 MON	I	Sled servo timing signal input terminal
38	SLD 2 MON	I	Sled servo timing signal input terminal
39	CLV VCON	O	Spindle servo drive voltage control signal output to the optical pick-up driver (IC551)
40	V28 CON	O	Error correction control signal output for the power supply voltage Not used (open)
41	APC REF	O	Laser automatic power control signal output to the RF amplifier (IC501)
42	CLV U MON	I	Spindle servo (U) timing signal input from the optical pick-up driver (IC551)

Pin No.	Pin Name	I/O	Function
43	CLV V MON	I	Spindle servo (V) timing signal input from the optical pick-up driver (IC551)
44	CLV W MON	I	Spindle servo (W) timing signal input from the optical pick-up driver (IC551)
45	CLV U CON	O	Spindle servo (U) drive signal output to the optical pick-up driver (IC551)
46	CLV V CON	O	Spindle servo (V) drive signal output to the optical pick-up driver (IC551)
47	CLV W CON	O	Spindle servo (W) drive signal output to the optical pick-up driver (IC551)
48	NC	O	Not used (open)
49	FR TRG	O	Free-run counter capture output terminal
50	VDD	—	Power supply terminal (+3V) (digital system)
51	VPP	—	Test terminal (fixed at “L”)
52	VSS	—	Ground terminal (digital system)
53	SLD 1R CON	O	Sled motor driver signal output to the sled motor control (IC803)
54	SLD 1F CON	O	
55	SLD 2R CON	O	
56	SLD 2F CON	O	
57	SLD DLY4	O	
58	SLD DLY5	O	
59	SLD DLY6	O	
60	SLD MODE	O	
61	SPCK	O	Serial data transfer clock signal output terminal Not used (open)
62	RMC DTCLK	I/O	Two-way data bus for the headphone with remote commander
63 to 65	NC	O	Not used (open)
66	SLD DIR	O	Motor direction signal output to the sled motor control (IC803)
67	SLD VCON	O	Sled servo voltage control signal output to the optical pick-up driver (IC551)
68	SLD PWR UP	O	By-pass transistor control signal output for the sled drive power supply
69	HP MUTE	O	Muting on/off control signal output to the headphone amplifier (IC302) “H”: muting on
70	HP STBY	O	Standby signal output to the headphone amplifier (IC302) “L”: standby
71	RMC SEL	O	TSB/SSB selection signal output terminal Not used (open)
72	NV DO	O	Serial data output to the EEPROM (IC802)
73	NV DI	I	Serial data input from the EEPROM (IC802)
74	NV CLK	O	Serial data transfer clock signal output to the EEPROM (IC802)
75	NV CS1	O	Serial chip select signal output to the EEPROM (IC802)
76	VDD	—	Power supply terminal (+3V) (digital system)
77 to 79	LCD VL2 to LCD VL0	I	Power supply input for the liquid crystal display bias Not used (fixed at “L”)
80	VSS	—	Ground terminal (digital system)
81 to 87	NC	O	Not used (open)
88 to 96	LCD SEG0 to LCD SEG8	O	Segment drive signal output of the liquid crystal display Not used (open)
97 to 100	LCD COM0 to LCD COM3	O	Common drive signal output of the liquid crystal display Not used (open)



## SECTION 6 EXPLODED VIEWS

### NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts

Example:

KNOB, BALANCE (WHITE) . . . (RED)

↑                      ↑  
Parts Color    Cabinet's Color

- Abbreviation  
CND : Canadian  
FR : French  
AUS : Australian

- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

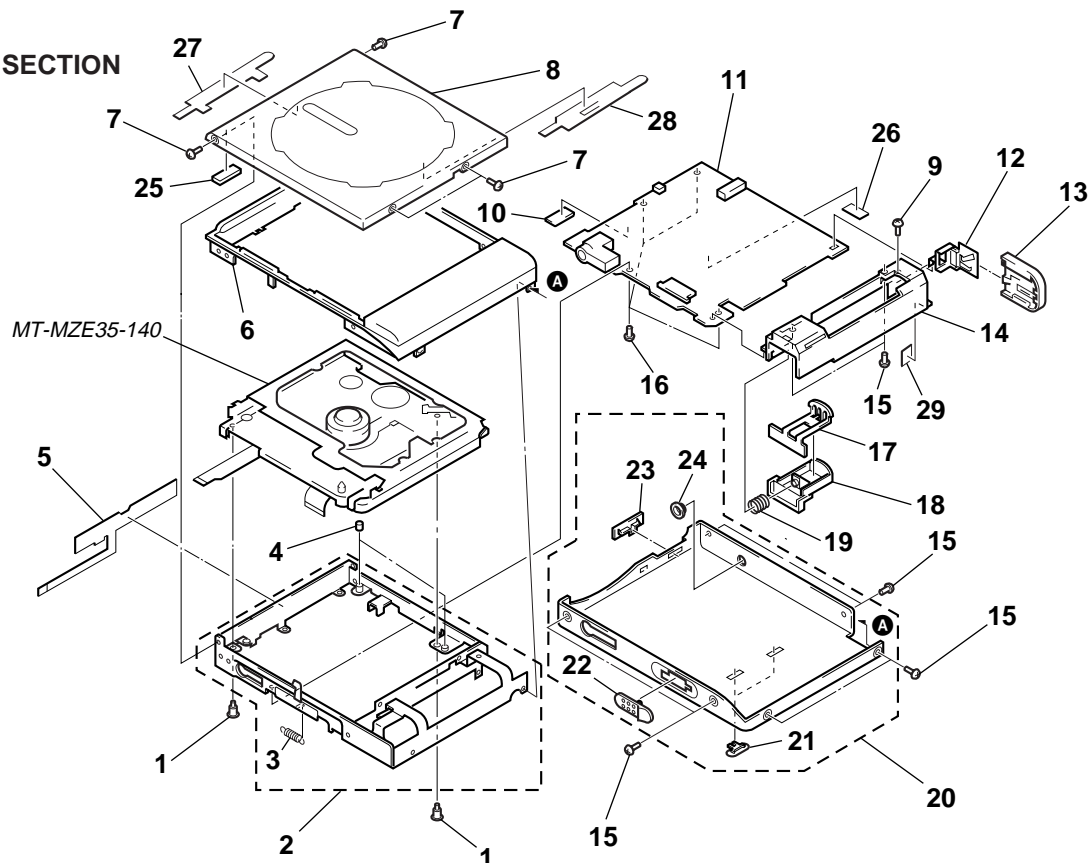
- The mechanical parts with no reference number in the exploded views are not supplied.

- Accessories and packing materials are given in the last of the electrical parts list.

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

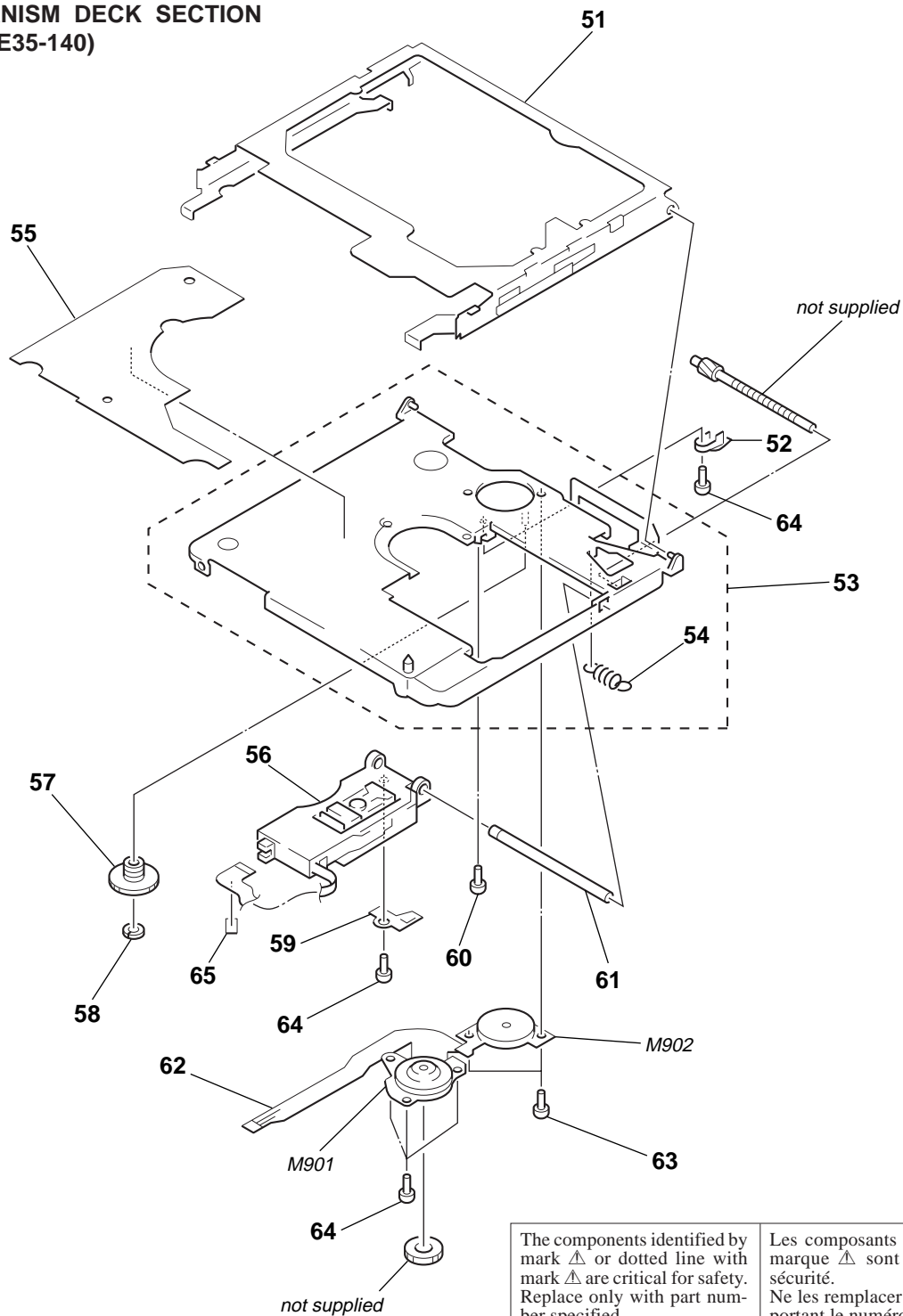
Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

### (1) CABINET SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-994-886-01	SCREW (MD), STEP		13	4-994-803-21	LID, BATTERY CASE (ORANGE) (AEP, UK, FR)	
2	X-4948-987-1	CHASSIS ASSY, SET		14	4-994-804-01	CASE, BATTERY	
3	4-989-078-01	SPRING (OPEN), TENSION		15	4-963-883-41	SCREW (M1.4), PRECISION PAN	
4	4-982-418-01	DAMPER		16	3-335-797-91	SCREW (M1.4), TOOTHED LOCK	
5	1-475-405-11	SWITCH UNIT		17	4-994-805-01	TERMINAL BOARD (+)	
6	X-4948-988-1	BELT ASSY (S), ORNAMENTAL (SILVER)		18	4-994-806-01	HOLDER (TERMINAL BOARD)	
6	X-4949-106-1	BELT ASSY (L), ORNAMENTAL (BLUE)	(AEP, UK, E, FR, AUS)	19	4-993-389-01	SPRING (BATTERY), COMPRESSION	
6	X-4949-107-1	BELT ASSY (D), ORNAMENTAL (ORANGE)	(AEP, UK, FR)	20	X-4948-991-1	PANEL ASSY (S), BOTTOM (SILVER)	
7	4-963-883-21	SCREW (M1.4), PRECISION PAN		20	X-4949-110-1	PANEL ASSY (L), BOTTOM (BLUE)	(AEP, UK, E, FR, AUS)
8	X-4948-990-1	LID ASSY (S), UPPER (SILVER)		20	X-4949-111-1	PANEL ASSY (D), BOTTOM (ORANGE)	(AEP, UK, FR)
8	X-4949-108-1	LID ASSY (L), UPPER (BLUE)	(AEP, UK, E, FR, AUS)	21	3-938-805-72	KNOB (DOLBY)	
8	X-4949-109-1	LID ASSY (D), UPPER (ORANGE)	(AEP, UK, FR)	22	4-994-801-01	KNOB (OPEN)	
9	4-963-883-01	SCREW (M1.4), PRECISION PAN		23	4-994-802-01	KNOB (HOLD)	
10	3-831-441-99	SPACER, KNOB		24	3-010-287-01	COLLAR (DC IN)	
11	A-3293-881-A	MAIN BOARD, COMPLETE (US, CND)		25	3-331-685-01	SPACER, OPEN KNOB	
11	A-3293-882-A	MAIN BOARD, COMPLETE	(AEP, UK, E, FR, AUS)	26	3-309-595-11	SHEET, INSULATING, PACK	
12	X-4948-989-1	TERMINAL ASSY, BATTERY		27	4-996-671-01	SPRING (B), DETENT	
13	4-994-803-01	LID, BATTERY CASE (SILVER)		28	4-996-670-01	SPRING (A), DETENT	
13	4-994-803-11	LID, BATTERY CASE (BLUE)	(AEP, UK, E, FR, AUS)	29	3-347-783-11	SHEET (SW)	

**(2) MECHANISM DECK SECTION  
(MT-MZE35-140)**



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-4948-010-1	HOLDER ASSY		60	3-349-825-82	SCREW, PRECISION	
52	4-982-563-01	SPRING, THRUST		61	4-993-251-01	SHAFT, MAIN	
53	X-4948-794-1	CHASSIS ASSY		62	1-666-784-11	FLEXIBLE BOARD (CLV)	
54	4-986-811-01	SPRING (EJECT), TENSION		63	4-963-883-61	SCREW (M1.4), PRECISION PAN	
55	4-995-532-01	COVER, MD		64	4-963-883-21	SCREW (M1.4), PRECISION PAN	
△ 56	X-4949-164-1	OPTICAL PICK-UP (ODX-1B) SECTION ASSY		65	3-309-595-11	SHEET, INSULATING, PACK	
57	4-982-555-01	GEAR (A)		M901	1-698-991-11	MOTOR, DC (SPINDOL)	
58	4-965-893-01	WASHER, GEAR (A) STOPPER		M902	1-698-764-21	MOTOR, SLED	
59	4-982-561-11	SPRING, RACK					

# SECTION 7 ELECTRICAL PARTS LIST

MAIN

## NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS  
All resistors are in ohms.  
METAL: Metal-film resistor.  
METAL OXIDE: Metal oxide-film resistor.  
F: nonflammable
- Abbreviation  
CND: Canadian  
FR : French  
AUS : Australian

- Items marked “\*” are not stocked since they are seldom required for routine service.  
Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS  
In each case, u:  $\mu$ , for example:  
uA. . :  $\mu$ A. .      uPA. . :  $\mu$ PA. .  
uPB. . :  $\mu$ PB. .    uPC. . :  $\mu$ PC. .  
uPD. . :  $\mu$ PD. .
- CAPACITORS  
uF:  $\mu$ F
- COILS  
uH:  $\mu$ H

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-3293-881-A	MAIN BOARD, COMPLETE (US, CND)		C514	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
	A-3293-882-A	MAIN BOARD, COMPLETE (AEP, UK, FR, E, AUS)		C515	1-162-908-11	CERAMIC CHIP 3PF 0.25PF 50V	
	*****			C516	1-162-910-11	CERAMIC CHIP 5PF 0.25PF 50V	
	< CAPACITOR >			C551	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C101	1-135-181-21	TANTALUM CHIP 4.7uF 20% 6.3V		C552	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C102	1-113-996-11	TANTAL. CHIP 220uF 20% 4V		C553	1-117-720-11	CERAMIC CHIP 4.7uF 10V	
C103	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		C554	1-117-720-11	CERAMIC CHIP 4.7uF 10V	
C201	1-135-181-21	TANTALUM CHIP 4.7uF 20% 6.3V		C555	1-104-912-11	TANTAL. CHIP 3.3uF 20% 16V	
C202	1-113-996-11	TANTAL. CHIP 220uF 20% 4V		C556	1-104-912-11	TANTAL. CHIP 3.3uF 20% 16V	
C203	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		C557	1-104-850-11	TANTAL. CHIP 6.8uF 20% 10V	
C301	1-110-569-11	TANTAL. CHIP 47uF 20% 6.3V		C558	1-104-850-11	TANTAL. CHIP 6.8uF 20% 10V	
C304	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C559	1-117-720-11	CERAMIC CHIP 4.7uF 10V	
C305	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V		C560	1-117-370-11	CERAMIC CHIP 10uF 10V	
C306	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V		C561	1-117-370-11	CERAMIC CHIP 10uF 10V	
C307	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V		C564	1-115-566-11	CERAMIC CHIP 4.7uF 10% 10V	
C308	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V		C565	1-115-566-11	CERAMIC CHIP 4.7uF 10% 10V	
C309	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C566	1-115-566-11	CERAMIC CHIP 4.7uF 10% 10V	
C310	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V		C567	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
C311	1-109-982-11	CERAMIC CHIP 1uF 10% 10V		C601	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C312	1-135-149-21	TANTALUM CHIP 2.2uF 20% 10V		C602	1-117-720-11	CERAMIC CHIP 4.7uF 10V	
C314	1-104-852-11	TANTAL. CHIP 22uF 20% 6.3V		C604	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C315	1-109-982-11	CERAMIC CHIP 1uF 10% 10V		C605	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C316	1-104-912-11	TANTAL. CHIP 3.3uF 20% 6.3V		C606	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C317	1-109-982-11	CERAMIC CHIP 1uF 10% 10V		C607	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C320	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C608	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C321	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		C610	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C324	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C611	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C326	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C802	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C501	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V		C803	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C502	1-164-156-11	CERAMIC CHIP 0.1uF 25V		C805	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C503	1-162-919-11	CERAMIC CHIP 22PF 5% 50V		C806	1-162-962-11	CERAMIC CHIP 470PF 10% 50V	
C504	1-162-919-11	CERAMIC CHIP 22PF 5% 50V		C807	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C505	1-162-917-11	CERAMIC CHIP 15PF 5% 50V		C808	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C506	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V		C809	1-162-962-11	CERAMIC CHIP 470PF 10% 50V	
C507	1-162-962-11	CERAMIC CHIP 470PF 10% 50V		C810	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C508	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		C811	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C509	1-117-720-11	CERAMIC CHIP 4.7uF 10V		C901	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C510	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V		C902	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C511	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C903	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C513	1-164-156-11	CERAMIC CHIP 0.1uF 25V		C905	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
				C906	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
				C907	1-164-156-11	CERAMIC CHIP 0.1uF 25V	

# MAIN

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C908	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	L554	1-414-400-11	INDUCTOR	22uH		
C909	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	L555	1-412-031-11	INDUCTOR CHIP	47uH		
C910	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	L556	1-414-410-21	INDUCTOR	10uH		
C911	1-117-232-11	TANTALUM	22uF	20%	4V	L601	1-414-754-11	INDUCTOR	10uH		
C912	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	L901	1-412-031-11	INDUCTOR CHIP	47uH		
C913	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	L902	1-411-804-21	INDUCTOR	10uH		
C914	1-113-996-11	TANTAL. CHIP	220uF	20%	4V	L903	1-414-410-21	INDUCTOR	10uH		
C915	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	< TRANSISTOR >					
C916	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	Q501	8-729-922-10	TRANSISTOR	2SA1577-QR		
C917	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	Q551	8-729-904-87	TRANSISTOR	2SB1197K-R		
C918	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V	Q552	8-729-929-11	TRANSISTOR	DTC143ZE-TL		
< CONNECTOR >						< RESISTOR >					
CN501	1-573-360-11	CONNECTOR, FFC/FPC 20P				R101	1-216-837-11	METAL CHIP	22K	5%	1/16W
CN551	1-784-228-21	CONNECTOR, FFC/FPC (ZIF) 8P				R102	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
* CN801	1-778-155-11	CONNECTOR, FFC/FPC (ZIF) 7P				R105	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
< DIODE >						R201	1-216-837-11	METAL CHIP	22K	5%	1/16W
D101	8-719-017-58	DIODE MA8068				R202	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
D201	8-719-017-58	DIODE MA8068				R205	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
D301	8-719-066-17	DIODE FTZ6.8E-T148				R301	1-216-845-11	METAL CHIP	100K	5%	1/16W
D801	8-719-052-72	DIODE CL-220HR-C (OPR)				R302	1-216-845-11	METAL CHIP	100K	5%	1/16W
D901	8-719-420-51	DIODE MA729				R303	1-216-833-11	METAL CHIP	10K	5%	1/16W
D902	8-719-066-16	DIODE RB491D-T146				R304	1-216-833-11	METAL CHIP	10K	5%	1/16W
< FERRITE BEAD >						R305	1-216-809-11	METAL CHIP	100	5%	1/16W
FB101	1-414-228-11	INDUCTOR CHIP	0uH			R306	1-216-864-11	METAL CHIP	0	5%	1/16W
FB201	1-414-228-11	INDUCTOR CHIP	0uH			R307	1-216-813-11	METAL CHIP	220	5%	1/16W
FB301	1-414-228-11	INDUCTOR CHIP	0uH			R308	1-216-864-11	METAL CHIP	0	5%	1/16W
FB302	1-414-228-11	INDUCTOR CHIP	0uH			R501	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
FB303	1-414-228-11	INDUCTOR CHIP	0uH			R503	1-216-833-11	METAL CHIP	10K	5%	1/16W
FB304	1-414-228-11	INDUCTOR CHIP	0uH			R504	1-216-853-11	METAL CHIP	470K	5%	1/16W
< IC >						R505	1-216-809-11	METAL CHIP	100	5%	1/16W
IC301	8-759-432-15	IC AK4314-VF-E2				R506	1-216-793-11	RES,CHIP	4.7	5%	1/16W
IC302	8-759-431-56	IC BA3577FS-E2				R507	1-216-849-11	METAL CHIP	220K	5%	1/16W
IC501	8-759-458-04	IC SN761050A				R508	1-216-841-11	METAL CHIP	47K	5%	1/16W
IC551	8-759-390-25	IC MPC17A55FTA				R509	1-216-864-11	METAL CHIP	0	5%	1/16W
IC552	8-759-358-40	IC TLC372CPWR				R510	1-216-864-11	METAL CHIP	0	5%	1/16W
IC601	8-759-481-76	IC uPD63730AGC-9EU				R511	1-216-817-11	METAL CHIP	470	5%	1/16W
IC602	8-759-334-38	IC MSM51V4400-70TS-K				R513	1-216-853-11	METAL CHIP	470K	5%	1/16W
IC801	8-759-525-09	IC RU6715MF-0007				R553	1-216-833-11	METAL CHIP	10K	5%	1/16W
IC802	8-759-449-23	IC AK93C55AV-L				R560	1-216-833-11	METAL CHIP	10K	5%	1/16W
IC803	8-759-441-35	IC BU12101-E2				R561	1-216-809-11	METAL CHIP	470K	5%	1/16W
IC901	8-759-457-81	IC MPC1830VMEL				R562	1-216-809-11	METAL CHIP	100	5%	1/16W
< JACK >						R601	1-216-864-11	METAL CHIP	0	5%	1/16W
J301	1-778-368-11	JACK, HEADPHONE (㊂)				R801	1-216-841-11	METAL CHIP	47K	5%	1/16W
J901	1-779-080-11	JACK, DC (POLARITY UNIFIED TYPE) (DC IN 1.5V)				R802	1-216-841-11	METAL CHIP	47K	5%	1/16W
< COIL >						R803	1-216-853-11	METAL CHIP	470K	5%	1/16W
L301	1-414-754-11	INDUCTOR	10uH			R804	1-216-853-11	METAL CHIP	470K	5%	1/16W
L502	1-414-754-11	INDUCTOR	10uH			R806	1-216-853-11	METAL CHIP	470K	5%	1/16W
L551	1-412-031-11	INDUCTOR CHIP	47uH			R808	1-216-841-11	METAL CHIP	47K	5%	1/16W
L552	1-412-031-11	INDUCTOR CHIP	47uH			R809	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
L553	1-414-400-11	INDUCTOR	22uH			R810	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
						R811	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
						R812	1-216-835-11	METAL CHIP	15K	5%	1/16W
						R815	1-216-853-11	METAL CHIP	470K	5%	1/16W
						R818	1-216-853-11	METAL CHIP	470K	5%	1/16W
						R820	1-216-845-11	METAL CHIP	100K	5%	1/16W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R823	1-216-857-11	METAL CHIP	1M 5% 1/16W			ACCESSORIES & PACKING MATERIALS	
R825	1-216-825-11	METAL CHIP	2.2K 5% 1/16W			*****	
R831	1-216-853-11	METAL CHIP	470K 5% 1/16W			1-475-375-11	REMOTE CONTROL UNIT (RM-MZ35)
R833	1-216-827-11	METAL CHIP	3.3K 5% 1/16W			1-528-299-41	BATTERY, NI-CD (NC-6WM) (US, CND)
R835	1-216-853-11	METAL CHIP	470K 5% 1/16W	△		1-528-713-21	BATTERY CHARGER (BC-7DC) (US, CND)
R836	1-216-853-11	METAL CHIP	470K 5% 1/16W			3-008-521-01	CASE, BATTERY CHARGE (US, CND)
R838	1-216-833-11	METAL CHIP	10K 5% 1/16W			3-861-359-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (AEP, UK, E, FR, AUS)
R901	1-216-863-11	RES,CHIP	3.3M 5% 1/16W			3-861-359-21	MANUAL, INSTRUCTION (SPANISH, CHINESE) (AEP, UK, E, AUS)
R903	1-216-845-11	METAL CHIP	100K 5% 1/16W			3-861-359-31	MANUAL, INSTRUCTION (GERMAN, DUTCH) (AEP, UK, FR)
R905	1-216-845-11	METAL CHIP	100K 5% 1/16W			3-861-359-41	MANUAL, INSTRUCTION (SWEDISH, FINNISH) (AEP, UK)
R906	1-216-847-11	METAL CHIP	150K 5% 1/16W			3-861-359-51	MANUAL, INSTRUCTION (ITALIAN,PORTUGUESE) (AEP, UK)
R907	1-220-920-11	RES,CHIP	0.47 5% 1/2W			3-861-359-61	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (US, CND)
R909	1-216-833-11	METAL CHIP	10K 5% 1/16W				
		< CONPOSITION CIRCUIT BLOCK >					
RB551	1-233-961-11	RES, NETWORK (CHIP TYPE) 1K				4-972-888-01	CASE, CARRYING
RB552	1-233-979-11	RES, NETWORK (CHIP TYPE) 1M				8-953-218-90	HEADPHONE MDR-E838SP//K SET (AEP, UK, E, FR, AUS)
		< SWITCH >					
S301	1-762-079-11	SWITCH, SLIDE (DIGITAL MEGABASS)				8-953-278-90	HEADPHONE MDR-A34SP SET (US, CND)
S801	1-762-342-11	SWITCH, PUSH (1 KEY)(OPEN/CLOSE)				X-3329-657-1	ATTACHMENT ASSY (AEP, UK, E, FR, AUS)
S802	1-762-078-11	SWITCH, SLIDE (HOLD)					
S805	1-762-078-11	SWITCH, SLIDE (AVLS)					
		< VIBRATOR >					
X301	1-767-621-11	VIBRATOR, CERAMIC (16.9344MHz)					
*****							
		MISCELLANEOUS					
		*****					
5	1-475-405-11	SWITCH UNIT					
△56	X-4949-164-1	OPTICAL PICK-UP (ODX-1B) SECTION ASSY					
62	1-666-784-11	FLEXIBLE BOARD (CLV)					
M901	1-698-991-11	MOTOR, DC (SPINDOL)					
M902	1-698-764-21	MOTOR, SLED					
*****							

<p>The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.</p>	<p>Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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